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Background
report/DEIR
Phase 1

CITY OF CUPERTINO GENERAL PLAN AMENDMENT 1-GPA-80

INSTITUTE OF GOVERNMENTAL
STUDIES

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UNIVERSITY OF CALIFORNIA
PHASE I

BACKGROUND REPORT/DEIR

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1 INTRODUCTION

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INTRODUCTION

The City of Cupertino is considering a major amendment of its General Plan. The Amendment was prompted by two apparent trends. First, there is a growing realization that the City can no longer rely on the State and Federal Government to fulfill longstanding commitments to complete major transportation improvements that were planned to service the region and the City. The City's Transportation Plan must center on contingency steps to solve transportation problems with local resources. Secondly, there is a growing realization that major shifts in the retailing, manufacturing, and financial sections of the economy will necessitate changes in the City's land use and housing policies and programs.

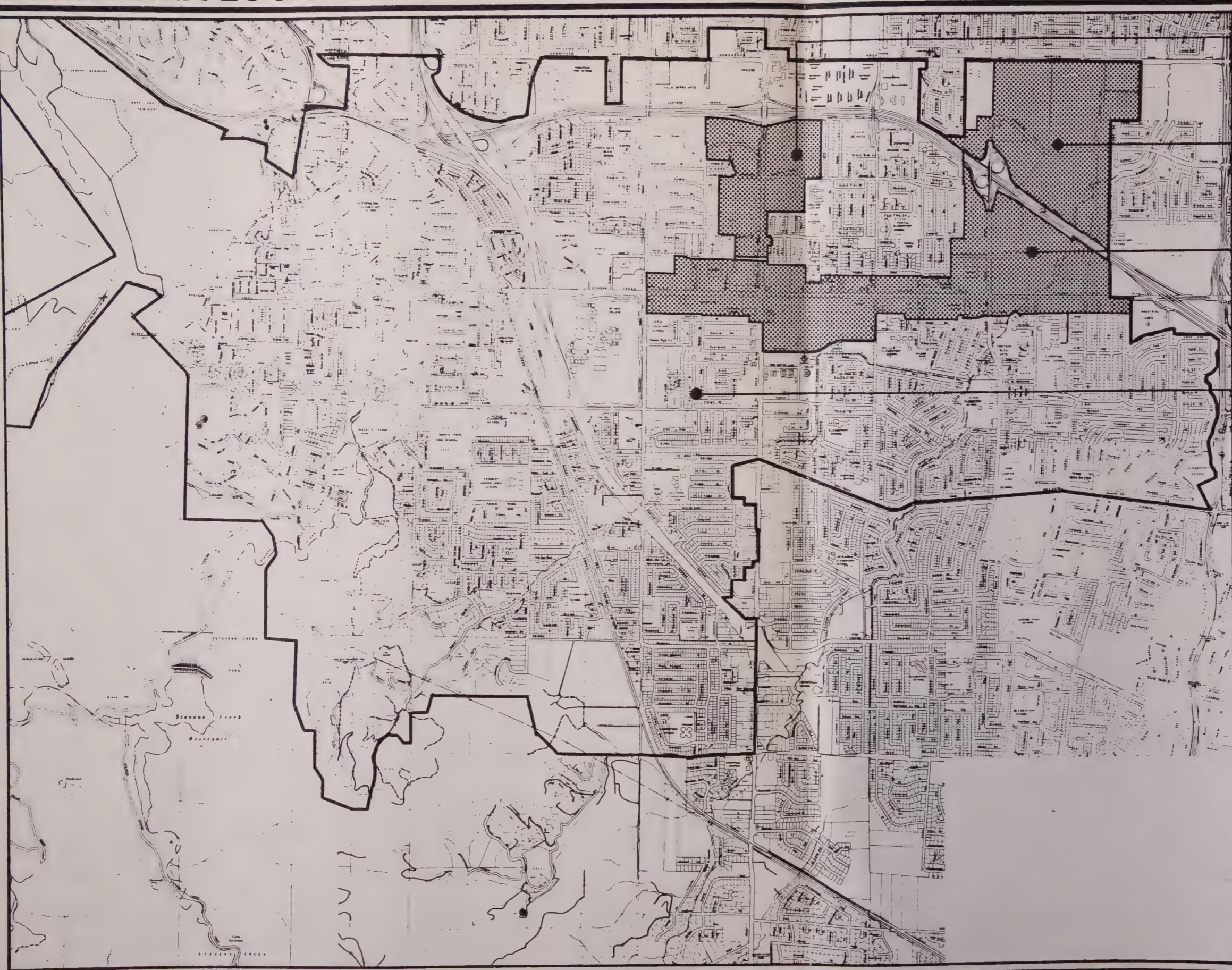
This document contains technical information and provides an evaluation process to enable Cupertino Planning Commissioners, City Councilpersons and Cupertino citizens to understand the implication of the fundamental economic, political and social changes eluded to above and the various General Plan Amendment alternatives that can be adopted to respond to those changes.

Historically, the General Plan has served as a general guide for the long-range growth of the community. The quickening pace of social and economic changes demonstrates the need for a General Plan which establishes shorter range objectives. Thus, while the General Plan Amendment will continue to establish long-range goals for the community, greater emphasis will be placed on specific objectives intended to resolve current problems and to take advantage of current opportunities. The general long-range goals will provide fundamental direction and the shorter range objectives will focus on a series of steps to attain those goals.

Planning Assumptions

The long-range goals and short-range policies embodied in the General Plan are based upon a number of key economic and demographic assumptions. A significant

CORE AREA LOCATION MAP



NORTH DE ANZA BLVD

NORTH VALLCO PARK

STEVENS CREEK BLVD

OUTSIDE CORE STUDY AREA



change on the base assumptions may require further General Plan Amendments, to the extent of redefining fundamental community goals.

The following economic and demographic assumptions serve as a basis of the Plan:

1. The lower household size trend projected by the County of Santa Clara and the Association of Bay Area Governments (ABAG) will continue. The average household size in Cupertino in 1960 was 3.39 persons. The 1980 average Cupertino household size was 2.73.
2. Although household sizes will continue to be small, the demand for an increased number of total housing units will increase due to growing trends for men and women to maintain a single head-of-household status as a result of divorce or because of a preference to live in an unmarried status.
3. The electronic industry will continue to flourish in Santa Clara County although the operational emphasis will continue to shift from manufacturing to research and development (R & D). Although the general trend will be for higher income employees to work in Cupertino, the existing and future industrial base will include small incubator companies which do not have the capital to decentralize. Therefore, there will still be a high demand for housing for all income levels.
4. There will be no major economic or legislative change that will drastically affect the ability of the City to provide current service levels and needed capital expenditures to implement the General Plan.
5. Public attitudes will continue to support the single-family neighborhood concept. Despite the growing trend of smaller households in relatively large single-family homes, legislation will continue to prohibit the conversion of single-family homes for multi-family or group living arrangements.

Planning Process

The planning process for the General Plan Amendment is described by Figure 1-2, labeled "General Plan Flow Chart". As indicated by Figure 1-2, the Amendment will evolve through a three phase process. The first phase includes the development of a data base, the development of alternative land use plans, and the evaluation of alternative land use plans. The end product of the first phase is the selection of one or two land use alternatives by the Planning Commission and City Council. The selected alternative or alternatives may be one of the four land use plans selected for "testing" by the City staff or a derivative development during the public hearing process. The second phase of the process involves an evaluation of the first phase alternative based upon air quality, noise and energy and water quality factors. The end product of the second phase is the completion of the joint General Plan Background Report/Environmental Impact Report followed by the selection of a final General Plan Amendment. The third phase of the process involves the editing of the General Plan to include the amendment and the adoption of a Specific Plan for the Stevens Creek Boulevard Planning Area. The General Plan Amendment and the Stevens Creek Boulevard Specific Plan will serve as major inputs into the Capital Improvement Plan which is reviewed annually during the Fall.

The heart of the planning process is the selection and simultaneous evaluation of the four original land use alternatives. There is great economic pressure to develop remaining undeveloped properties at greater land use intensities than previously experienced by the City. Conversely, during the past few years, a number of residents have testified at various land development hearings that intensities of development should be lowered. The planning process used in the Amendment process will enable the Planning Commission and the City Council to "test" alternative land development patterns.

GENERAL PLAN FLOW CHART

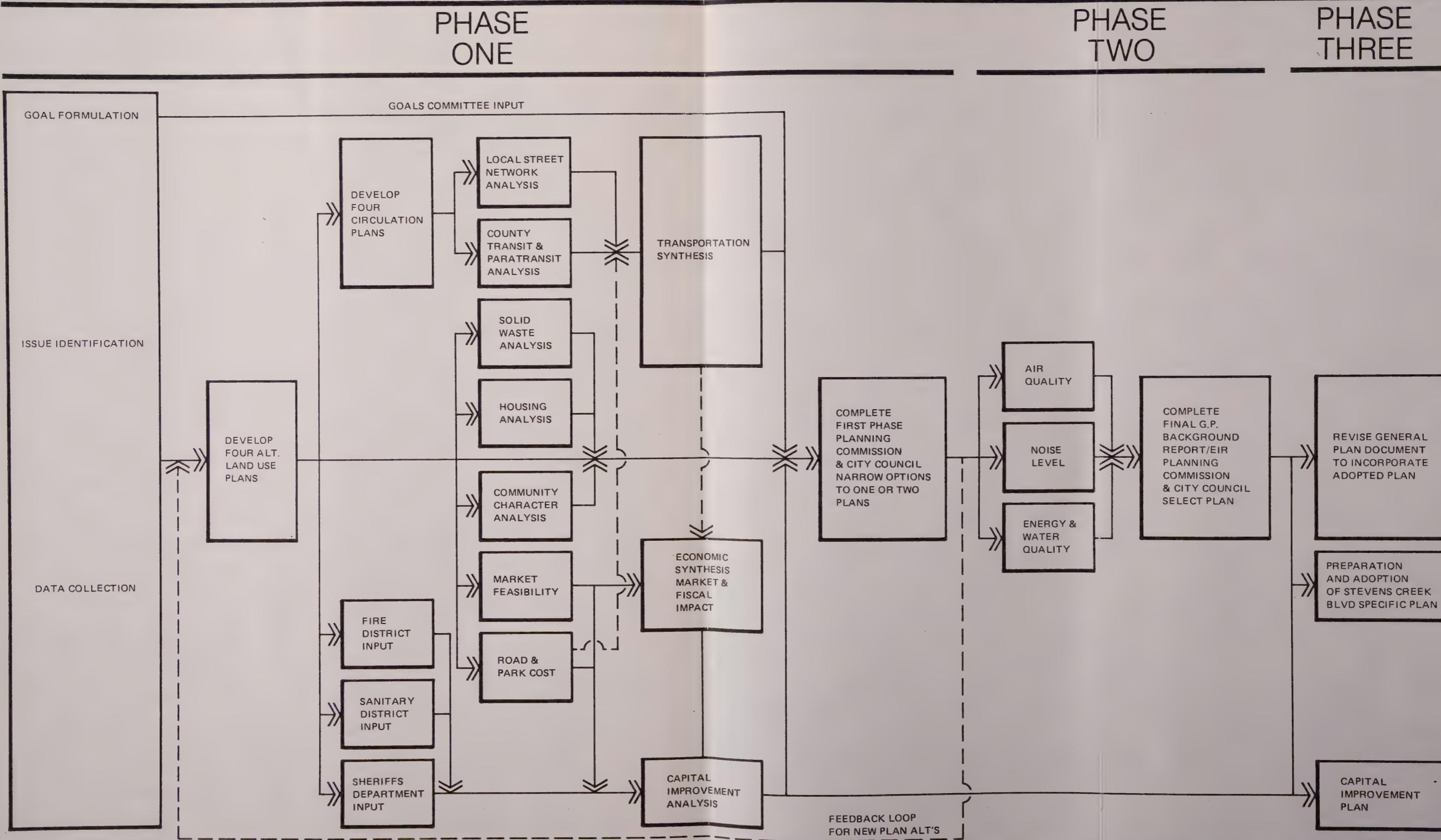


FIGURE 1-2

Each land use alternative was developed based upon assumptions regarding land use types and intensities for specific sub-areas of the Core Area. The four options will serve as milestones or indexes which will enable the Planning Commission, City Council and the public to develop a final General Plan for adoption. Each alternative plan will be simultaneously evaluated in the balance of the report by providing answers to the following questions.

1. How will the Plan affect the character of the community?
2. How will the Plan affect the existing and future capacity of the road system and liveability of residential streets?
3. How will the alternative plans affect the number, location and price of housing and will the availability of housing affect the ability of employers to keep present employees and attract new employees?
4. Are the Plans feasible in the marketplace and what is the cost of revenue associated with each plan to City government of Cupertino and other major government entities that provide services to Cupertino citizens?
5. How will the four alternative Plans affect service capacities of servicing systems other than roads that are provided by local government such as fire and police, sanitary sewer and by private utilities, such as Pacific Gas & Electric Company and the Telephone Company?

Description of Alternatives

Table 1-1 labeled, "General Plan Land Use Options", identifies the amount of non-residential building square footage attributable to each land use option. The columns in the "Developed" section of the table delineates existing building area inside and outside of the Core Study Area. The Future Development columns delineates new development on parcels (primarily small infill sites) outside of the Core Study Area and new development in the Core Study Area based upon the four alternative land use options. As implied by the title,



GENERAL PLAN LAND USE OPTIONS

	DEVELOPED			FUTURE DEVELOPMENT				BUILD OUT				
	Outside Core Study Area ¹ Column 1	Inside Core Study Area ¹ Column 2	Total Developed	Committed New Development Outside Core Study Area ² Column 3	Uncommitted New Development Inside Study Area Based Upon Four Plan Options				Total General Plan Build Out Based Upon Optional Plan			
					"Increased" Column 4A	"Intermediate" Column 4B	"Existing" (1979 GP) Column 4C	"Decreased" Column 4D	"Increased" Total 1234A	"Intermediate" Total 1234B	"Existing" (1979 GP) Total 1234C	"Decreased" Total 1234D
COMMERCIAL Sq. Ft.	1,031,540	2,022,381	3,053,921	170,400	2,025,222 + Hotel ³	399,207 + Hotel ³	345,022	(-13,478)	5,249,543 + Hotel ³	3,623,528 + Hotel ³	3,569,343	3,210,843
OFFICE Sq. Ft.	430,600	426,747	857,347	60,700	2,448,727	2,820,344	500,327	335,827	3,366,774	3,738,391	1,418,347	1,253,874
INDUSTRIAL Sq. Ft.	720,100	3,378,718	4,098,818	252,700	2,787,870	1,853,441	1,333,870	998,670	7,139,388	6,186,959	5,685,388	5,350,188
TOTALS	2,182,240	5,827,846	8,010,086	483,800	7,261,819	5,054,992	2,179,219	1,321,019	15,755,705	13,548,878	10,673,105	9,814,905

¹ Refer to Figure 1 for definition of study area.

² Figures in Column 3 represent cumulative building sq. ft. from future "fill in" development on sites located outside of study area.

³ Hotel consisting of 850 rooms and a 1,250 person banquet and 2,350 conference facility.

Total building floor area for hotel is 638,000 sq. ft. This figure is not included in chart figures.

Residential du/ac	DEVELOPED		FUTURE DEVELOPMENT				BUILD OUT				
	Developed	1/1/81	Committed In Fill	Increased	Intermediate	Existing	Decreased	Increased	Intermediate	Existing	Decreased
High 20-35			511	720	1,720	600		1,231	2,231	1,111	511
Medium High 10-20	3,210		372	187	127	187	187	3,769	3,709	3,769	3,769
Medium 5-10	2,450		254				400	2,704	2,704	2,704	3,104
Low 1-5	9,722		572					10,294	10,294	10,294	10,249
Very Low	222		1,026					1,248	1,248	1,248	1,248
Group Quarters	430							430	430	430	430
Single Home On Developable Land*	54							54	54	54	54
Totals	16,088		2,735	907	1,847	787	587	19,730	20,670	19,610	19,410

the "Build-out" columns identifies the total Citywide development square footages when the City is fully developed based upon the four alternative plans. The explanation of the Developed, Future Developed and Build-out columns for the non-residential building square footages relate to the residential chart located on the bottom half of Table 1-1.

Figures 1-3 through 1-6 illustrates the land use type and intensities which were used to compute the building area and dwelling unit counts found on Table 1-1. Figure 1-7 graphically displays the relative differences in building area resulting from implementation of the four land use plans. A brief description of the study objective and assumptions for each land use alternative follows:

Decreased Plan

The study objective of the "Decreased Plan" is to evaluate the implications of a Core Area General Plan Amendment which severely reduces the intensity of future development.

The floor area ratio for new office and industrial is .17 in lieu of a .33-.37 ratio which typifies existing office and industrial development in the community. Commercial growth in the Core Area actually decreases as the Cali site redevelops into a 10-unit per acre residential project. The "Lester" and "Hotel" site in Vallco Park cannot develop since development potential was transferred to other sites in Vallco Park.

The typical building form will be single-story construction and surface parking with extensive landscaping.

Existing Plan (1979 General Plan)

The study objective of the "Existing Plan" is to evaluate the implications

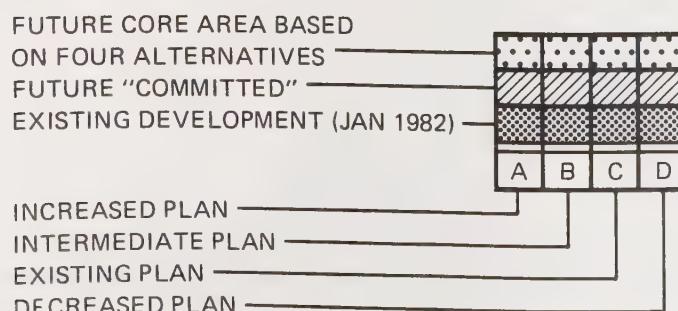
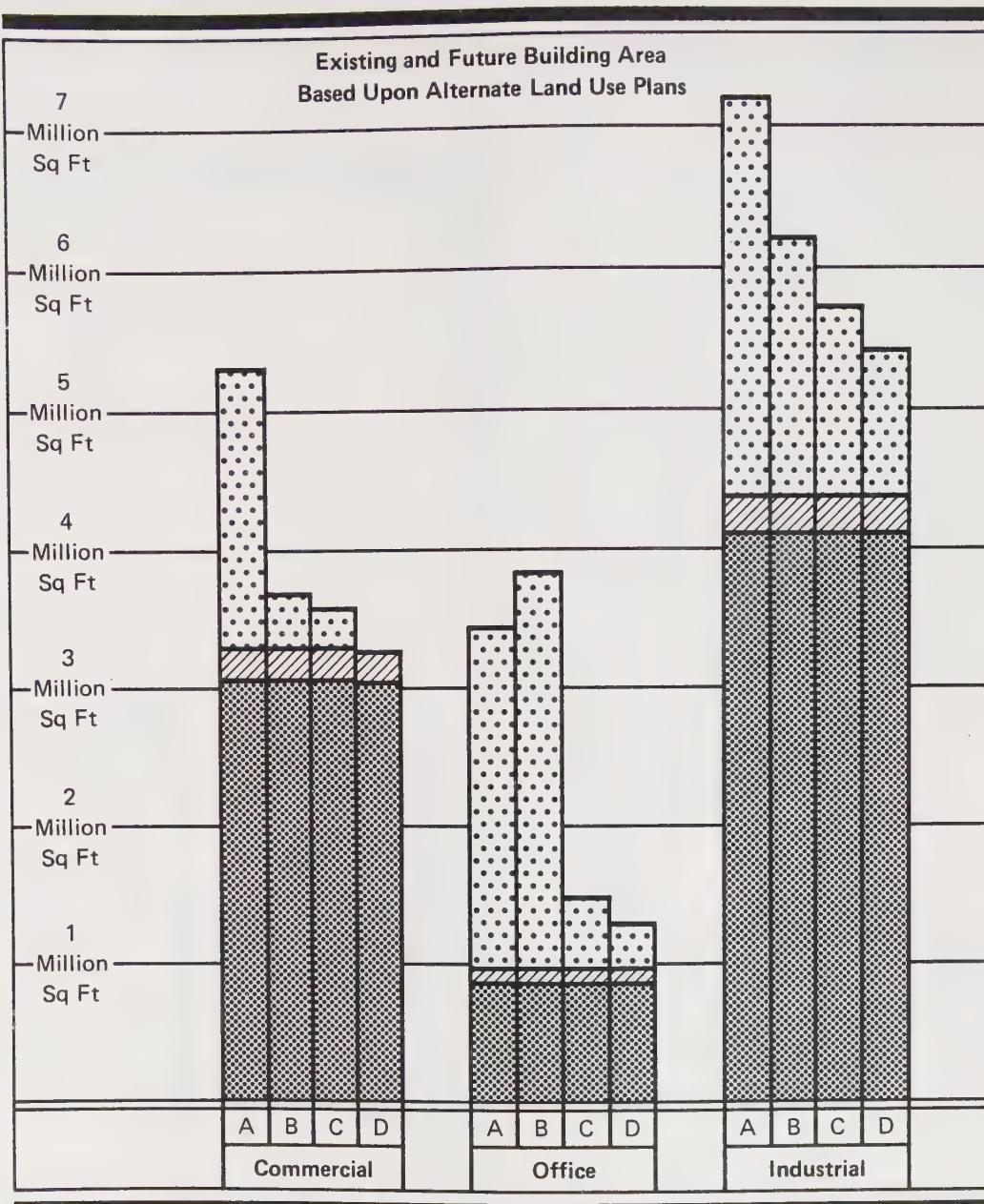


FIGURE 1-7

DECREASED INTENSITY ALTERNATIVE

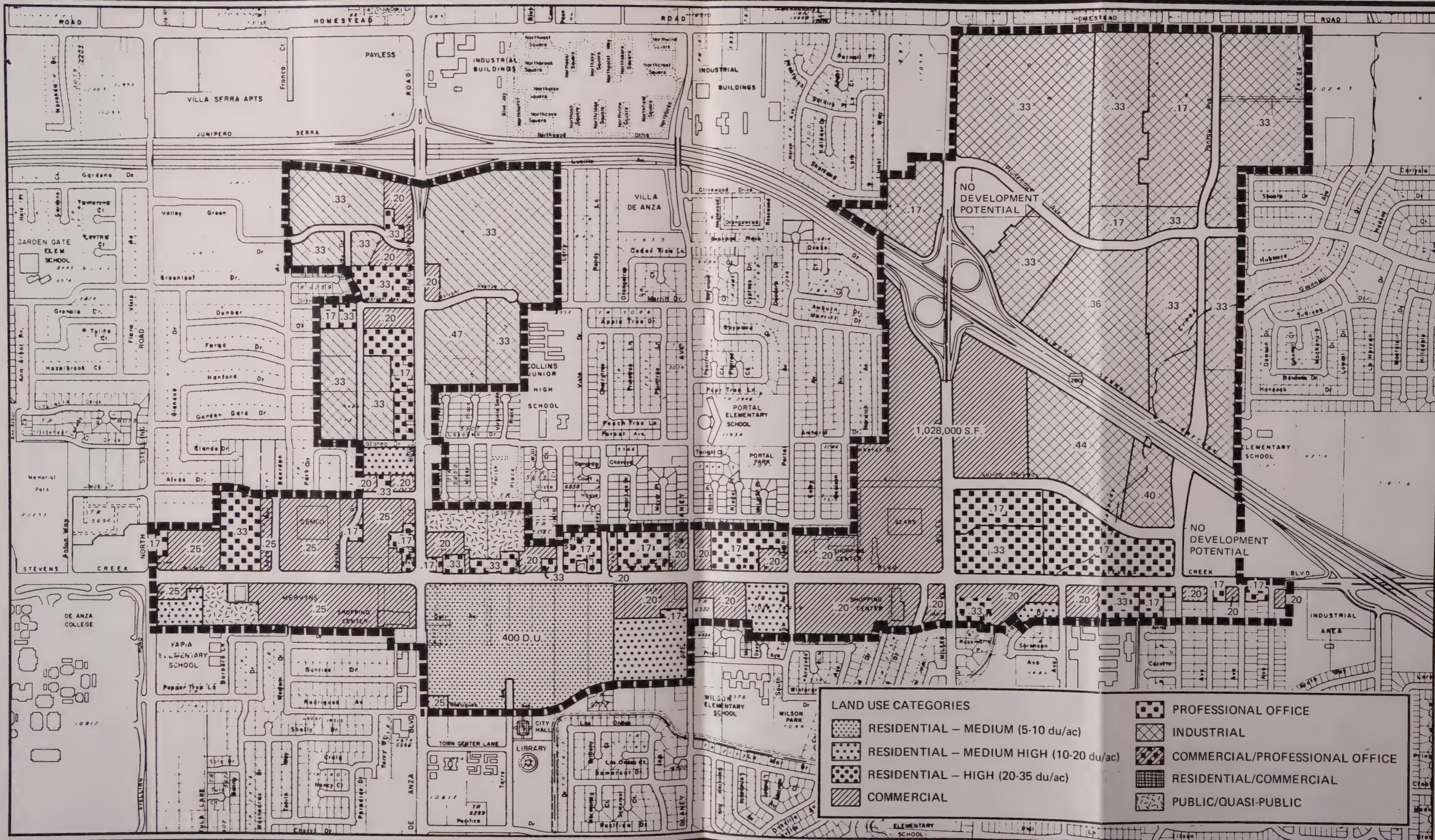


FIGURE 1-3

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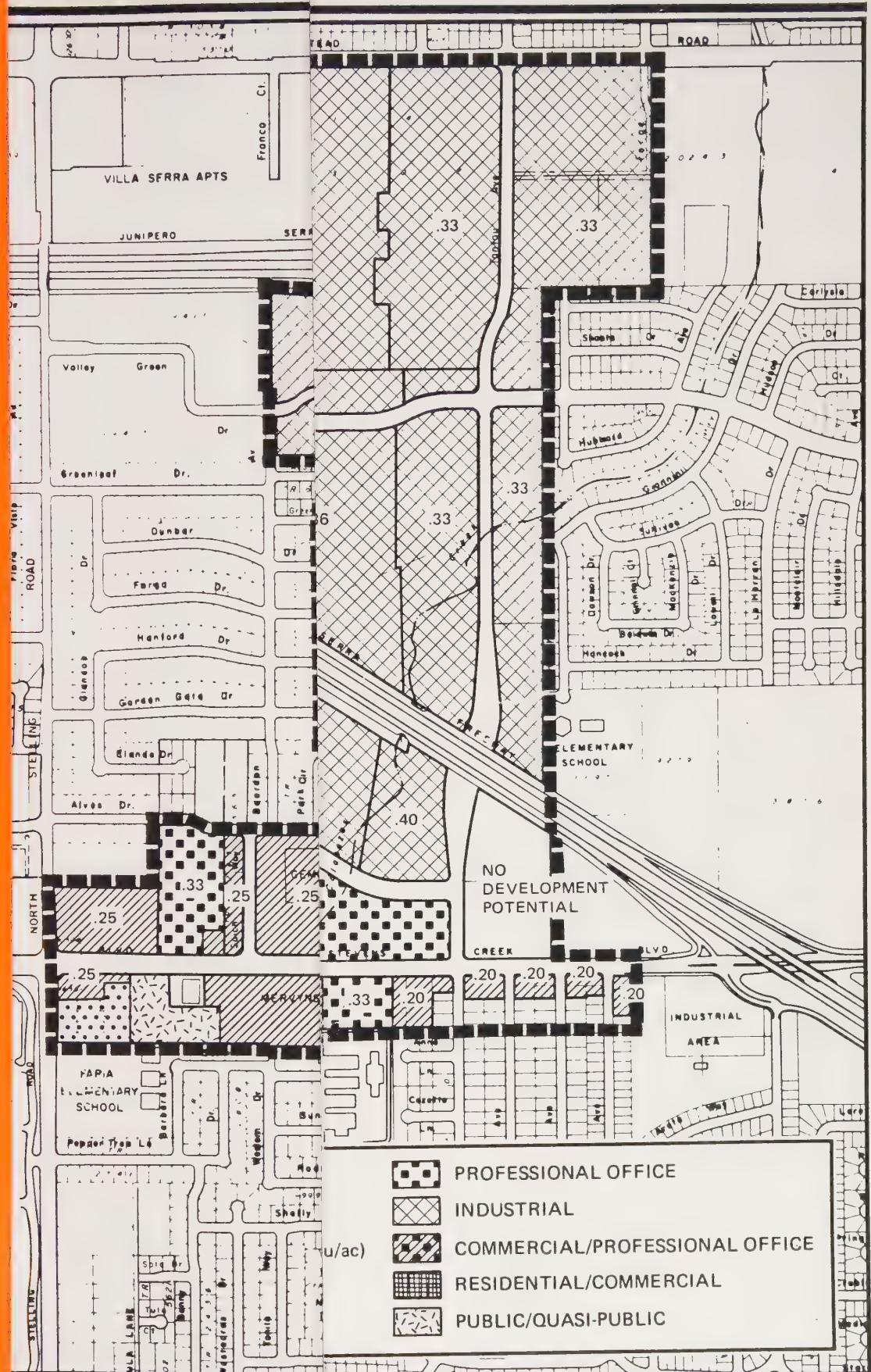


FIGURE 1-4
1-11

of retaining existing General Plan policies for properties in the Core Area. The Traffic Intensity Performance Standard and the Vallco Park Construction Phasing Memo remain in effect and the "Lester" and "Hotel" sites remain in a non-development status.

The typical building form will be single-story and two-story construction for office and single-story commercial development.

Intermediate Plan

The study objective of the "Intermediate Plan" is to evaluate the implications of a Core Area General Plan Amendment which permits development intensities to increase above current General Plan levels in the Town Center and Vallco Park Planning Area. The Traffic Intensity Performance Standard is replaced by equivalent floor area ratios of .18 for commercial and .37 for office development. Said ratios are applied to areas currently restrained by the Trip End Policy.

The floor area ratio for the Cali property segment of Town Center and the segment of Vallco Park fronting Stevens Creek Boulevard is .75. The Vallco Fashion Park is expanded by approximately 300,000 sq. ft. An 850 room hotel with conference facilities will be constructed. Undeveloped property in the segment of Vallco Park north of Highway 280 is permitted to expand to a .45 floor area ratio.

The northwest, northeast and southwest corner of Stevens Creek Boulevard and De Anza Boulevard are designated with a 1.00 floor area ratio and the smaller properties on the north side of Stevens Creek Boulevard between De Anza Boulevard and Vista Drive are designated with a floor area ratio to encourage redevelopment.

INTERMEDIATE INTEN



FIGURE 1-5

With the exception of Town Center and the adjoining "crossroads" and Vallco Park, the developed form of the Core Area will be single and two-story structures and surface parking. Development in the Town Center/Crossroads and Vallco Park areas will be characterized by two, three and an occasional five or six story structure with underground or partially depressed parking.

Increased Plan

The study objective of the "Increased Plan" is to evaluate the implications of a Core Area General Plan Amendment which permits development to increase throughout the Core Area with significantly higher intensities in the Vallco Park Planning Area.

The floor area ratio for commercial and office development will increase from the existing plan value of .25 (.20 in trip end zone) and .33 to .45. The industrial floor area ratio will increase from .33 to .45. The Town Center will develop into a major retailing complex with complementary mixed use office development with a .45 floor area ratio. Vallco Park's floor area ratio will significantly increase to permit the construction of a major mixed use office, commercial, and hotel complex with a floor area ratio which ranges from .77 to 2.22.

The development form of the Core Area in general, will be two to three stories with a greater use of semi-depressed parking. The Vallco Park Planning Area will be characterized by approximately five to ten, 10-15 story structures constructed among two to three story structures. The complex will be built over multi-level parking structures.

EXISTING INTENSITY ALTERNATIVE

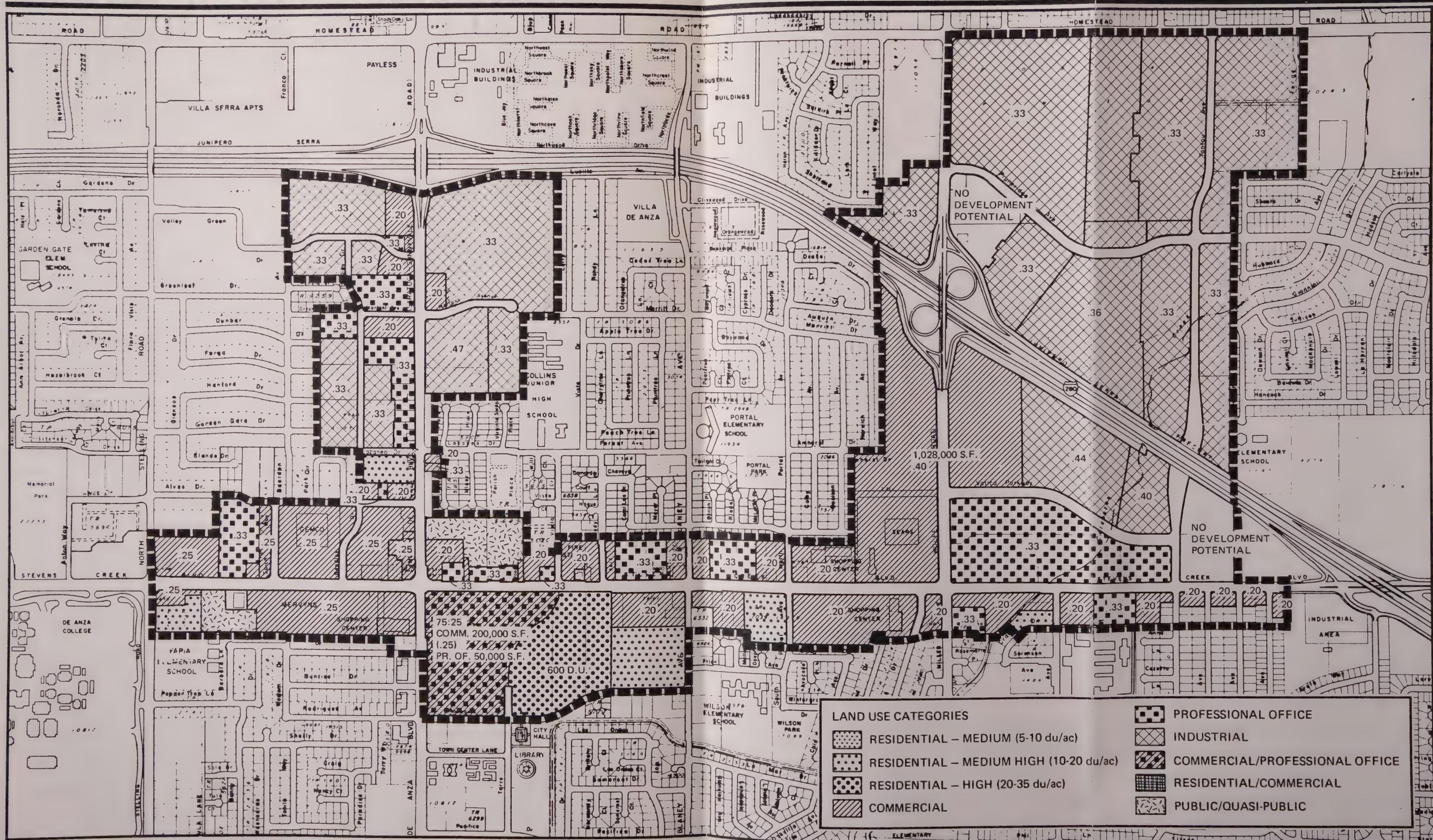


FIGURE 1-4
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INTERMEDIATE INTENSITY ALTERNATIVE

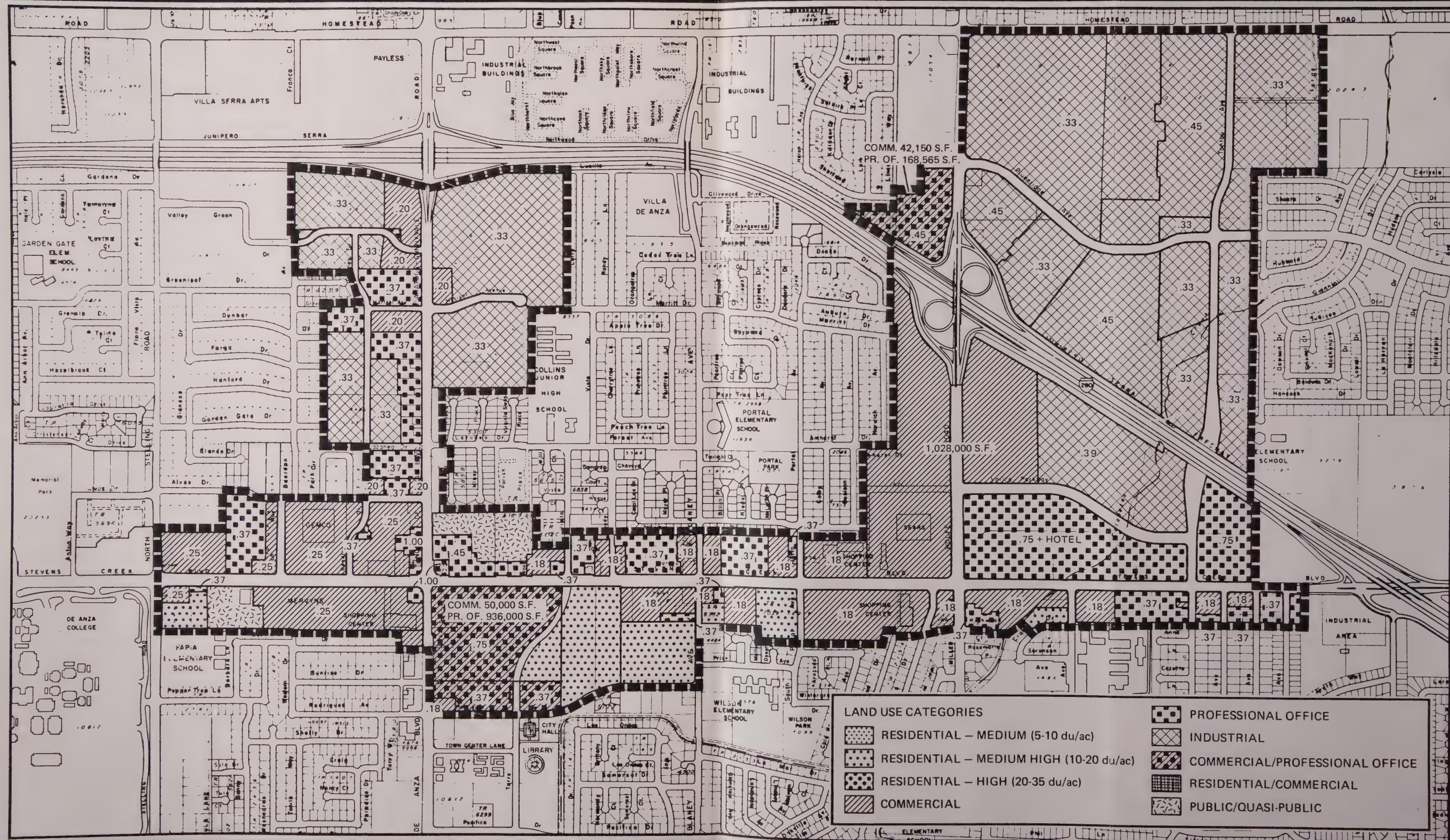


FIGURE 1-5

2 LAND USE/ COMMUNITY CHARACTER

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LAND USE/COMMUNITY CHARACTER

Introduction and Purpose

The Land Use/Community Character section of the Background Report analyzes the implications of four alternative land use plans on the community's goals and objectives pertaining to the physical development of the community. The analysis includes potential changes in the physical form of the community, particularly with respect to high-rise development, and the effect of the alternative land use plans on the future mix of retailing office, industrial and residential activities. As implied by the term "Community Character", this section will not only include quantitative measures related to land use but will also contain a qualitative assessment of the various plans.

Goals and Objectives

The existing General Plan and the Cupertino Goals Committee report "Looking Forward to the Eighties", places great emphasis on the need to develop strong land use objectives and a strong monitoring process to guide physical growth within the City. Each document contains three dominant themes.

1. A Balanced Community

The concept of balanced growth was a fundamental objective of the individuals and groups that sought to incorporate the City in the mid 1950's and it has been the cornerstone of land use planning ever since. The term "balance" refers to concept of maintaining a diversity of shopping and employment opportunities and a diversity of housing types to meet the need for a variety of lifestyles and income levels. The term also incorporates the concept of fiscal balance. The initial City Fathers and all subsequent Councils and citizens advisory boards have maintained the goal of adopting a land use mix which provides adequate tax revenues to support a good education system, extensive public parks system, library and other public amenity services.

2. Maintain Quality Residential Neighborhoods

The General Plan and 1982 Goals Committee report contains a number of policies concerning traffic management, neighborhood park access, code enforcement and the regulation of high intensity developments in order to protect and enhance residential neighborhoods.

3. Adopt High Quality Design Standards

The General Plan and Goals Committee report contains policy intended to ensure that future development and redevelopment adheres to established site, architectural, landscaping and signing design standards.

Although the existing General Plan and Goals Committee report have basic common Land Use/Community Character objectives, they do conflict relative to the need for a "community focal point" in Town Center and the degree of regulation of high intensity development. The existing General Plan advocates a functional and symbolic urban focal point on the 50+ acre Town Center Planning Area. The Town Center model contains diverse land use types including public spaces for formal and informal civic activities.

The Goals Committee addressed community identity from a broader perspective. It made the finding that there are a number of identifiable, functional modes in the City and that collectively they form community identity.

In terms of development intensity, the current General Plan permits multi-story construction in the North De Anza Boulevard, Town Center and Vallco Park Planning Areas. The Goals Committee report supports multi-story development in the above area subject to performance standards.

Measurement to Test Adherence to Community Goals and Objectives

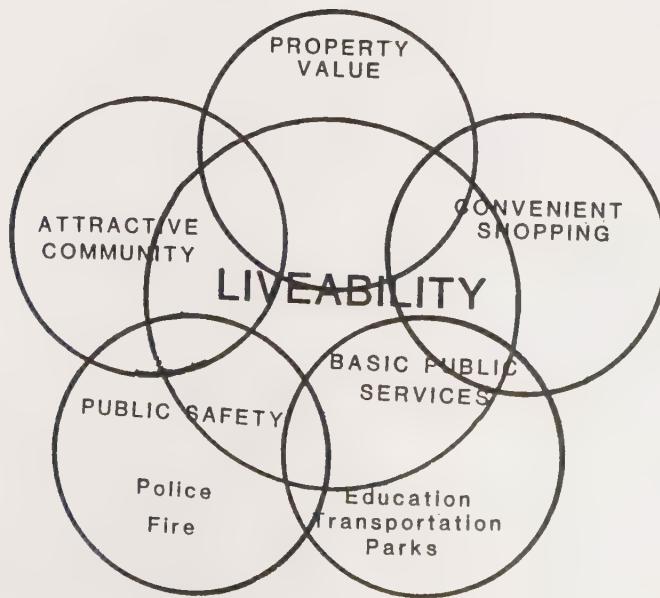
Typically, a General Plan Land Use Element includes a diagram which spatially allocates various land use categories to geographical areas within the community and contains a series of policy statements which, in varying degrees, regulates the site and architectural design of future development within the community. Normally,

the General Plan does not strictly regulate the intensity of development for non-residential categories such as industrial, residential and office. Most plans establish density ranges to control the intensity of residential development. Non-residential intensity of development is managed in an indirect manner through height, setback and off-street parking requirements.

While the Land Use Plan and policy statements are intended to implement the goals and objectives of the community, the means of measurement to determine to which degree various land use options will achieve that goal are somewhat crude and, in some cases, ineffectual.

One of the primary objectives of the General Plan Background Report/EIR is to develop effective measures to assess alternative plans developed in conjunction with the Plan Amendment and to evaluate subsequent development applications. The first step in the development of a set of measurements to test plans is to summarize the overriding goals and objectives of the community with respect to their physical environment. Figure 2-1 illustrates fundamental goals and objectives normally expressed by residents during Goals Committee proceedings and during public hearings involving the General Plan and land development applications. Quite

FIGURE 2-1



simply, residents want a community with a high degree of livability attained by a land use plan that results in an attractive community, one that maintains property values, one that ensures adequate and convenient shopping to meet daily needs, one that ensures that basic public services such as education, the street system and parks are provided, and finally that the plan will recognize special public safety needs related to fire and police service. Table 2-1 lists general questions that are used consciously or subconsciously by residents to evaluate land development options in terms of his or her perception of the effect of a land use change on the livability of his or her neighborhood.

TABLE 2-1

Traffic Characteristics

How much traffic will be generated by the Plan or development and how will that traffic affect my street during the weekday, weekend, peak commute hours and late evening periods?

Population Characteristics

How will the General Plan or specific development proposal affect population mix of my neighborhood? Will the Plan or project attract new residents that share my values and lifestyles?

Community Services

How will the Plan or specific development proposal affect the ability of the City and County government and special districts to provide public services to my home and neighborhood?

Community Character

Will the Plan or specific development proposal result in a harmonious development pattern with my neighborhood and will the Plan or project result in development which is compatible with my image of the development character of the community?

The above concerns appear to be relatively universally expressed by citizens that testify before the City Council or Planning Commission during a land use related hearing. Other less environmentally related questions might be: "How would the alternative plans and specific development proposals affect my place of employment and how would the alternative plan or a specific development proposal either obstruct or enhance my ability to conveniently gain access to shopping, cultural, and leisure activities?"

Some of the questions listed in Table 2-1 can be quantified by using objective measurements while others are completely subjective.

Tables 2-2 and 2-3 describe objective and subjective measurements that could be used by citizens, the Planning Commission and City Council to assess the alternative land use plans considered by the Planning Commission and City Council context of the subject General Plan Amendment.

The measurements listed on Table 2-2 are land use related impacts that are assessed in the Transportation, Housing and Community Services sections of this Background Report. The Table is presented in the Land Use/Community Character section of the Report to describe relative impacts of various land use types on a constant one acre unit of land.

As stated earlier, the factors that will be used to evaluate alternative land uses from a community character perspective are highly subjective. Table 2-3 describes the subjective evaluation factors that will be used in the Community Character section to assess the four growth alternatives.

Existing and Future Setting Based Upon Four Plan Alternatives

Description of Study Area

Vacant and Under-Developed Land

Table 2-4 describes the existing acreage by land use category within the Stevens

TABLE 2-2

**PHYSICAL AND SOCIAL IMPACT
ASSOCIATED WITH ALTERNATE LAND-USE TYPES
ON ONE ACRE OF LAND**

Land Use Type	Average Range Density	People/Acre	Traffic			Characteristics			Employment Generation	Park Need/Acre
			Total Population	School-age Child. (K-8)	Traffic Generation All Day	Weekday P.M. Peak	Weekend	Evening		
Residential										
1	1	4	.50	12(12)	1					.012
1-5	4	14	2.00	40(10)	3					.042
5-10	8	20	2.25	72(9)	6	X	X			.060
10-20	15	27	2.85	120(8)	11					.081
20-30	25	45	4.75	150(6)	19					.135
Commercial										
.20 FAR			355	35					2	17
.25 FAR			445	45	X	X	X		2	22
.45 FAR			800	80					2	39
Office										
.17 FAR			150	7					4.4	32
.33 FAR			290	14	X				4.4	63
.45			400	20					4.4	86
Industrial										
.17			92	13					4	29
.33			180	25	X				4	57
.45			245	34					4	78
Notes:										
	Household Size Factor 1-5/ac = 3.5 persons/unit 5-10/ac = 2.5 persons/unit 10-20/ac = 1.8 persons/unit 20-30/ac = 1.8 persons/unit		School-age Factor (K-8) Single-Fam. = .52 Duplex = .28 Condominium = .19 Apartment = .15		Traffic Generation (Trips/1000 GSF) Factor ADT PM Peak (Peak Direction)					
					Commercial 40.7	4				
					Office 20.2	1				
					Industrial 12.5	1.74				

TABLE 2-3

EVALUATION OF LAND USE/COMMUNITY CHARACTER GOALS AND OBJECTIVES

	ACTIVITIES				PHYSICAL FORM			
	Land Use Balance in Community		Compatibility Between Land Uses		Community Identity		Building Form	
	Opportunity for Existing Firms to grow	Variety of Shopping & Recreational Experiences	Hours of Operation	Noise & Parking Spillover		Scale & Harmony	Intrusion Privacy Sun Shadow	
Increased Plan								
Intermediate Plan								
Existing Plan								
Decreased Plan								

EXISTING ACREAGE

JAN 1, 1982

TABLE 2-4

Study Areas	LAND USE IN NET ACRES							Total Acres in Study Area
	Commercial	Professional Office	Industrial	Mixed Use Residential/ Com./Pro. Off.	Public Quasi Public	Residential	Vacant	
Stevens Creek Boulevard	155.54	23.65	24.11		14.02	21.75	93.04 ¹	332.11
North De Anza Boulevard	17.0	7.36	81.51		.95		5.06	111.88
North Vallico			121.81				96.79 ²	218.6
TOTAL ACREAGE	172.54	31.01	227.43		14.97	21.75	194.89	662.59

¹ Vacant land in the Stevens Creek Boulevard Study Area includes 8.31 acres under construction and 5.74 acres with parcels containing a single dwelling unit on developable land.

² Vacant land in the North Vallico Study Area includes 17.6 acres under construction.

LAND USE ACREAGE

Inside Core Study Area

TABLE 2-5

	LAND USE IN NET ACRES							Total Acres
	Commercial	Professional Offices	Industrial	Mixed Use	Public Quasi Public	Residential	Vacant	
Present Land Use Jan. 1, 1982	173	31	227		15	22	195	993
GENERAL PLAN OPTIONS								
Decreased	161	79	313		13	74	22	662
Existing	172	69	313	48	13	26	22	663
Intermediate	161	95	315	58	13	20		662
Increased	189	73	315	58	1	26		663

Creek Boulevard, North De Anza Boulevard and Vallco Park North sub-areas of the Core Study Area. Approximately 663 acres are located within the Core Area boundary of which approximately 195 acres are vacant. Of the 195 vacant acres, approximately 26 are currently involved in an on-going construction projects.

Figure 2-2 delineates the vacant and under-developed properties within the Core Study Area. The under-developed symbol refers to properties with a ratio of .5 or less of improved value over land value. The improved value over land value ratio is intended to delineate those properties with current uses that are not the highest and best in terms of economic utilization. The lumber yard at the corner of Randy Lane and Stevens Creek Boulevard is an example of under-developed property.

Table 2-5 summarizes the existing land use totals by category described in Table 2-4 and compares those totals with the future build-out options based on implementation of the four General Plan options. The comparison of the acreage figures for each plan reveals that, with the exception of the residential category, the amount of acreage devoted to each land use category is relatively constant. The wide variation in the build-out building square footage figures illustrated on Table 1-1 on Page 7 of the Introduction section can be explained by the different Floor Area Ratios (FAR) utilized for various properties in the construction of the General Plan Land Use options.

Floor Area Ratio

The Floor Area Ratio (FAR) is a mathematical value expressing the quotient resulting from the division of gross building area square footage by the land area square footage. The FAR should not be confused with the building coverage or footprint on a parcel which is the area of the site which is covered by a structure. The Floor Area Ratio is an effective means to measure and control the amount of building space permitted on a parcel. Figure 2-3

INCREASED INTENSITY ALTERNATIVE

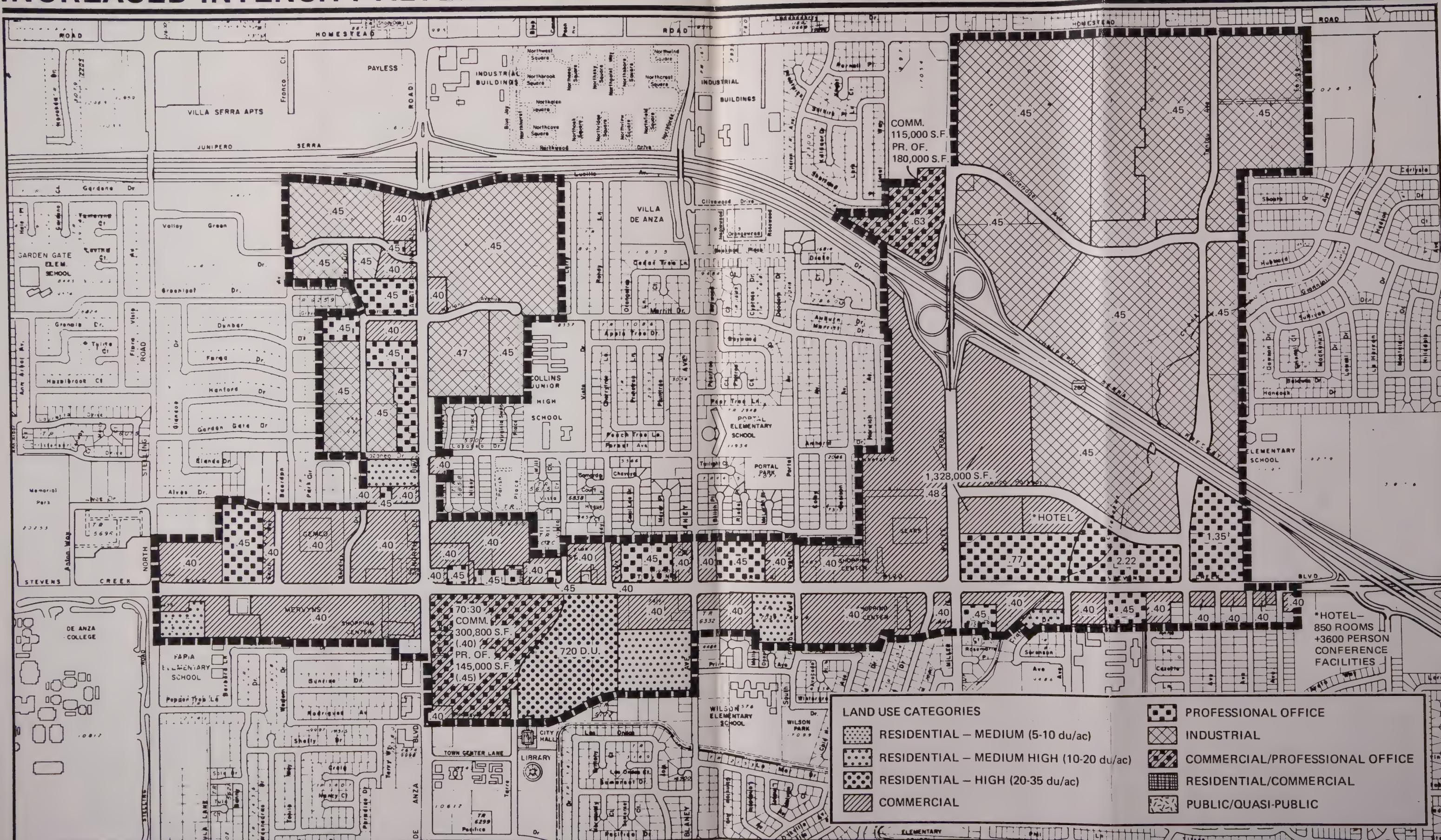


FIGURE 1-6

describes the distinction between lot coverage and Floor Area Ratio. The exhibit illustrates how a building can be figured differently on a lot and still maintain the same Floor Area Ratio.

FIGURE 2-3
RELATIONSHIP BETWEEN FLOOR AREA RATIO (F.A.R.)
AND BUILDING COVERAGE (FOOTPRINT)
EXAMPLE: ALTERNATIVE BUILDING CONFIGURATIONS
FOR THE SAME F.A.R.

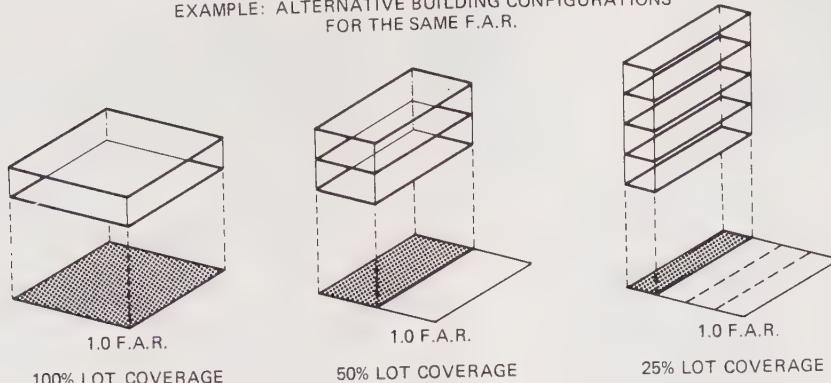


Figure 2-4 categorizes the parcels within the Core Area into four Floor Area Ratio classifications. As evidenced by the diagram, the majority of parcels are developed with a relatively low (0-21% and 21-35%) FAR. The higher Floor Area Ratios in the North De Anza Boulevard and Vallco Park areas were achieved by transfer of development potential from surrounding properties.

Daytime/Nighttime Populations

Figure 2-5 illustrates the existing and future daytime and nighttime population by land use category for the total study area and the Vallco Park and Town Center/Crossroads sub-areas. The daytime/nighttime population figures are valuable because they not only determine public service needs for areas but they also determine the level of "people" activity that the City may expect to experience in the City's commercial and industrial center of Town. It should be emphasized that the evening period in the context of this study is 5:00 p.m. to 10:00 p.m. The chart illustrates that although office development will significantly increase the daytime population levels within the Core Area, the evening population levels for that land use is proportionately less because offices are not occupied during the evening hours. This characteristic is recognized by residents living adjacent to Stevens Creek Boulevard who participated in recent General Plan Amendment concerning the Stevens Creek Boulevard properties and Town Center.

VACANT AND UNDERDEVELOPED ACREAGE

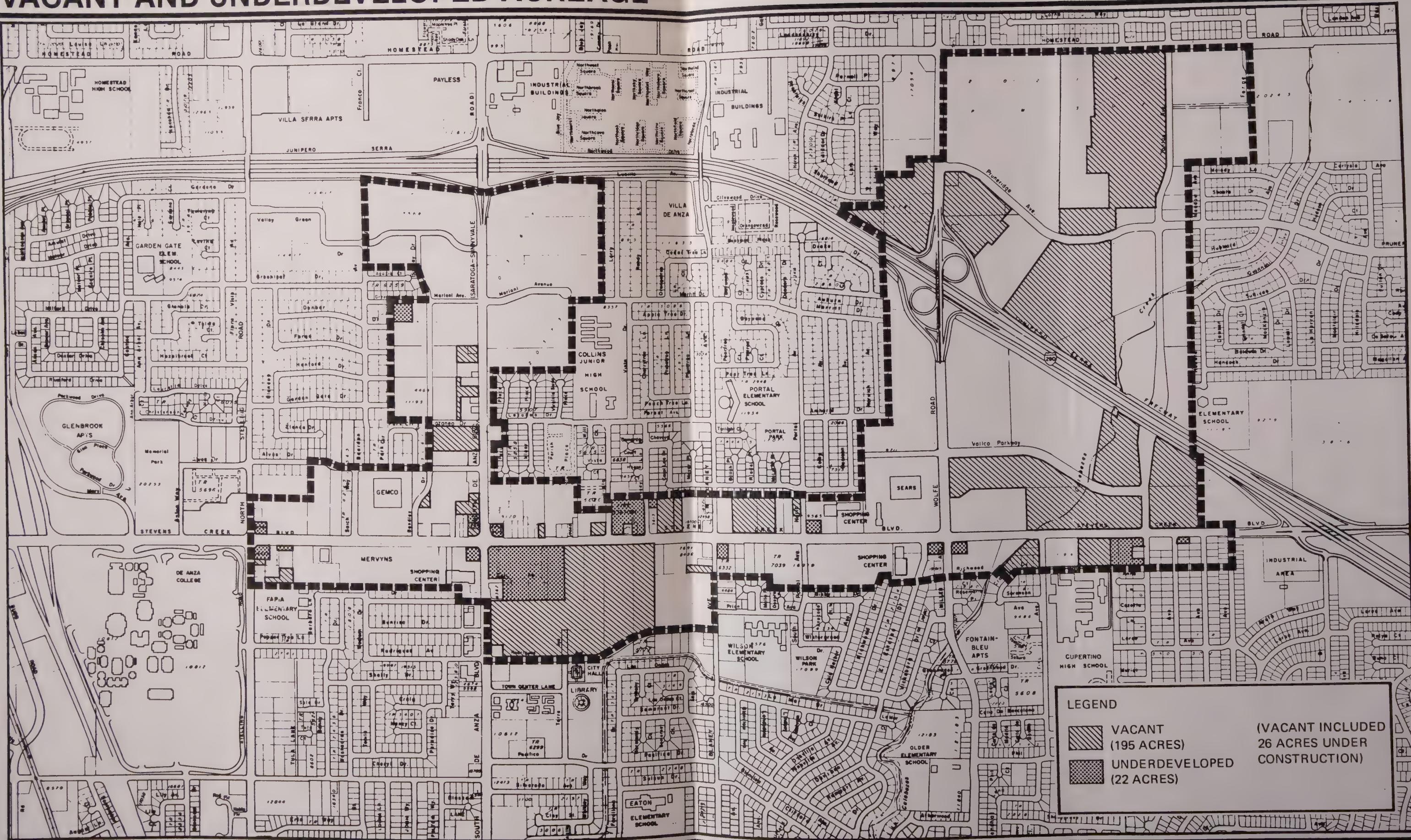
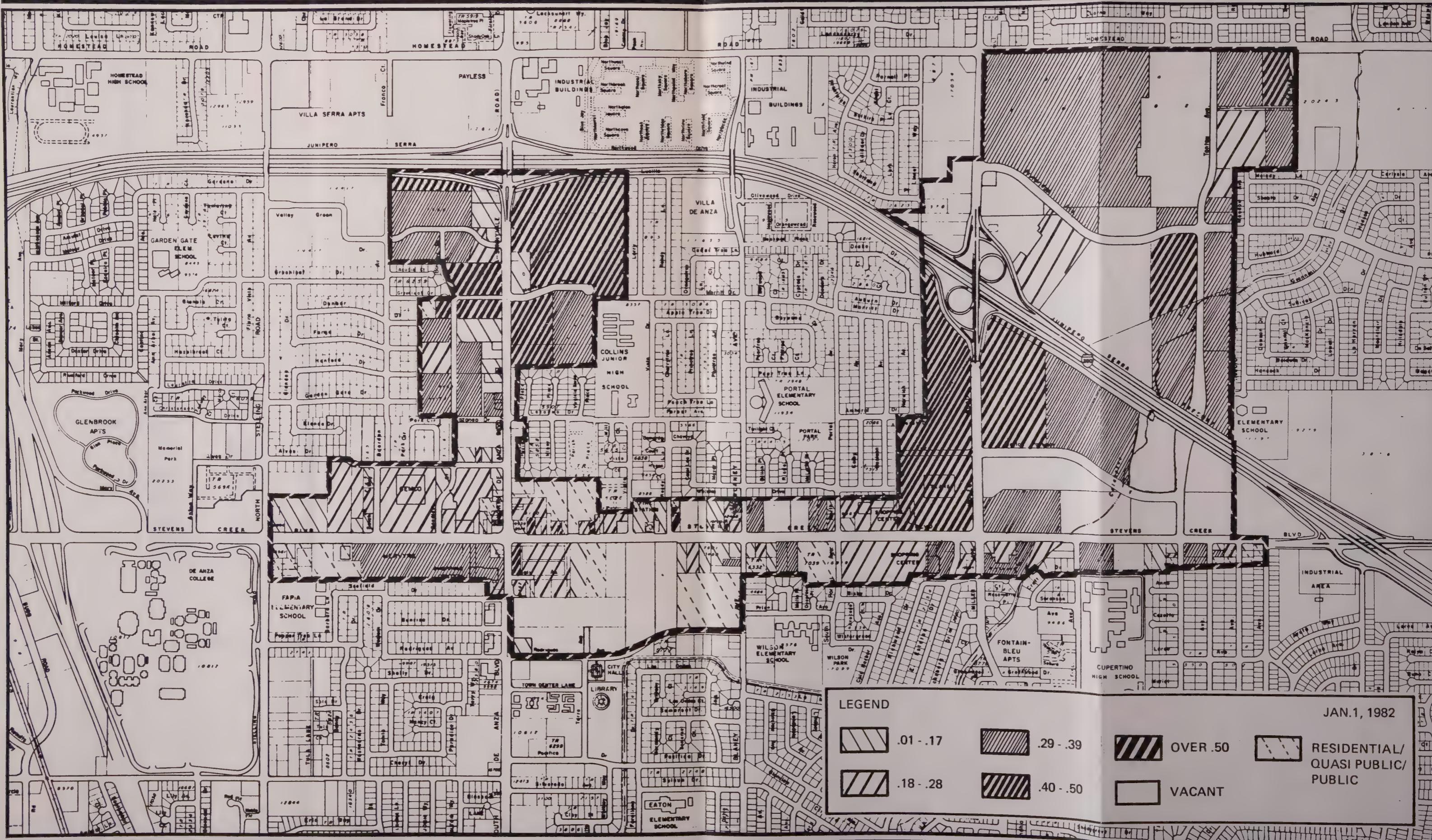
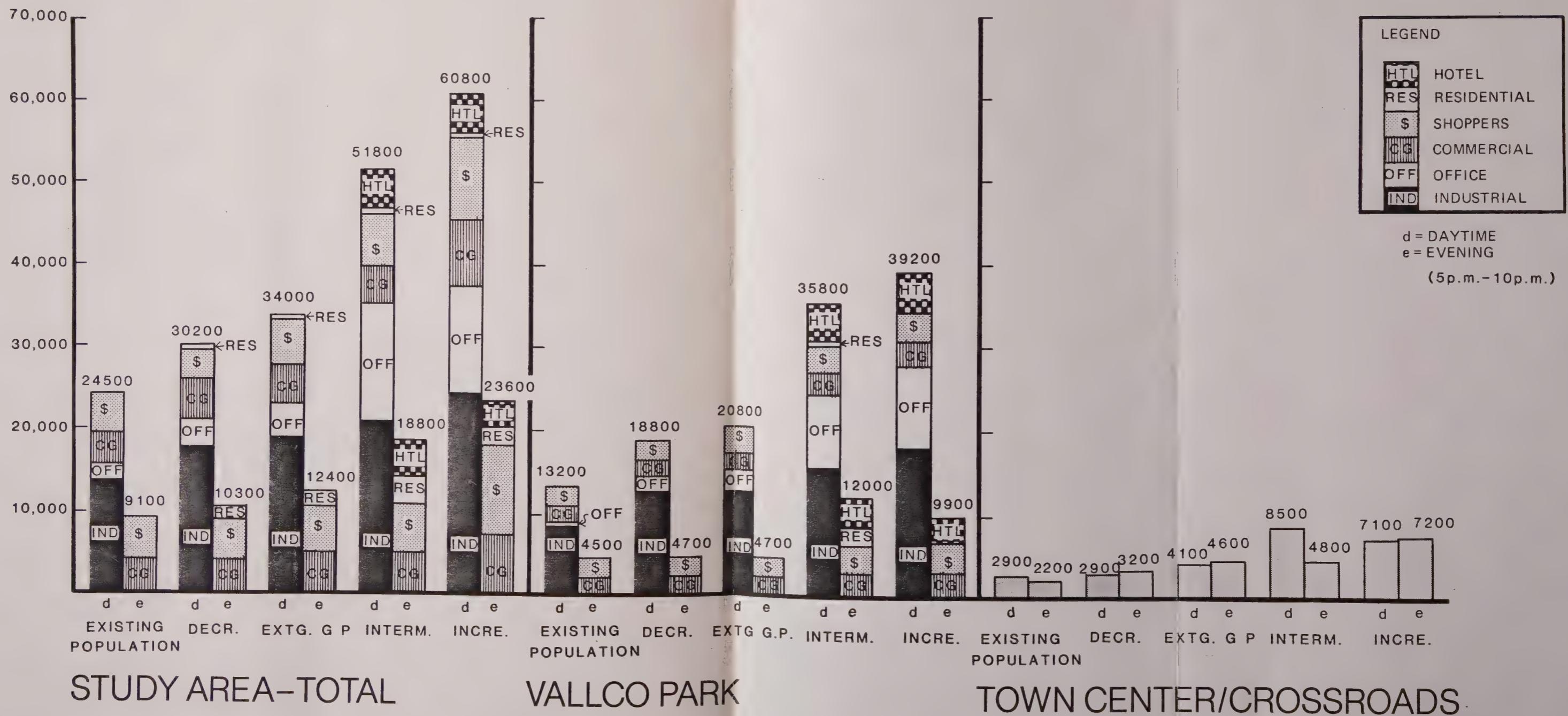


FIGURE 2-2

EXISTING FLOOR AREA RATIOS



DAY-EVENING POPULATION ESTIMATE DURING PEAK PERIODS



note: bar graphs represent total population,
for breakdown see population tables.

Evaluation of the Four Alternative Growth Plans

The four alternative growth plans will have an effect upon the type and number of activities that will occur within the Core Area and will effect the physical form of future development within the City.

Effect of Growth Options on Future Activities within the Core Area

A thumbnail sketch of each of the four land use alternatives are presented on Pages 1-8 to 1-14 of the Introduction section of this report. The market feasibility of the four land use plans was assessed in the Economic Feasibility/Fiscal Impact section of this report and the Economic Appendix. Figure 2-6 summarizes the general conclusions that can be drawn from the aforementioned sections.

FIGURE 2-6

Summary of Land Use Activities Resulting from four Alternative Land Use Alternatives and the effect upon Community Character					
	New Growth by Land Use Type	Market Feasibility yes or no	Population Peaks	Core Area Character	
Increased Plan	2,000,000 commercial	Only 500,000 \pm sq. ft. of commercial is feasible.	weekdays evenings weekends	Corporate, commercial and financial center	Significant Increase
	2,400,000 office				
	2,700,000 industrial new hotel	Offices, industrial and hotel: yes			
Intermediate Plan	400,000 commercial		weekdays	Corporate, commercial and financial center	Moderate Increase
	2,800,000 office	yes	weekends	- lower scale	
	1,800,000 industrial new hotel				
Existing Plan	350,000 commercial		weekdays	Industrial Parks	Minor Increase
	500,000 office	yes	weekends		
Decreased Plan	1,300,000 industrial				
	0 commercial		weekdays	Industrial Parks	Minor Increase
	300,000 office	yes	weekends		
	1,000,000 industrial				

* This section assumes restriction of new bar and entertainment to existing or future commercial and/or office centers/industrial parks.

Economic Function

Figure 2-6 prophesizes that the Existing and Decreased Plan at build-out will most likely result in a continuation of the City's present economic function. On the other hand, the Intermediate and Increased Plan could result in a significant change in the location and type of business activities within the

Core Area. The Economic Feasibility Report and other economic reports prepared by banking institutions and research divisions of major real estate firms projects a heavy demand for corporate office/research and development space within the community. The economic report also indicates that the demand for future commercial expansion is relatively limited meaning that new corporate office and the research and development function of existing firms may out-compete existing marginal retailing activities for space.

There will be additional pressure to construct corporate headquarters and R & D facilities within the Town Center. While the corporate facility could be designed attractively, a single corporate land use within the 26-acre Town Center could eliminate the opportunity for creating a community focal point providing diverse activities around public plazas and other public amenities. Policies are proposed in the mitigation section of this report to mitigate that potential problem.

The 300,000 sq. ft. expansion of Vallco Fashion Park may compete with other specialty shopping within existing centers of Cupertino. However, the Vallco expansion would not compete with the discount goods and convenience goods retailing within the City.

The Increased and Intermediate Plans also provide for the construction of a hotel within Vallco Park which would be of considerable benefit to existing industrial firms within the community both in terms of providing overnight accommodations for visiting employees, vendors and trainees in terms of providing conference facilities. The hotel will also provide accommodations for relatives and friends of Cupertino residents. On the negative side, the hotel, eating and drinking establishments, and entertainment facilities will increase early and late evening activity within the community which could be a nuisance factor for residents who live within close proximity to the Core Area. Figure 2-7 identifies existing eating and

DINING AND BAR ACTIVITY

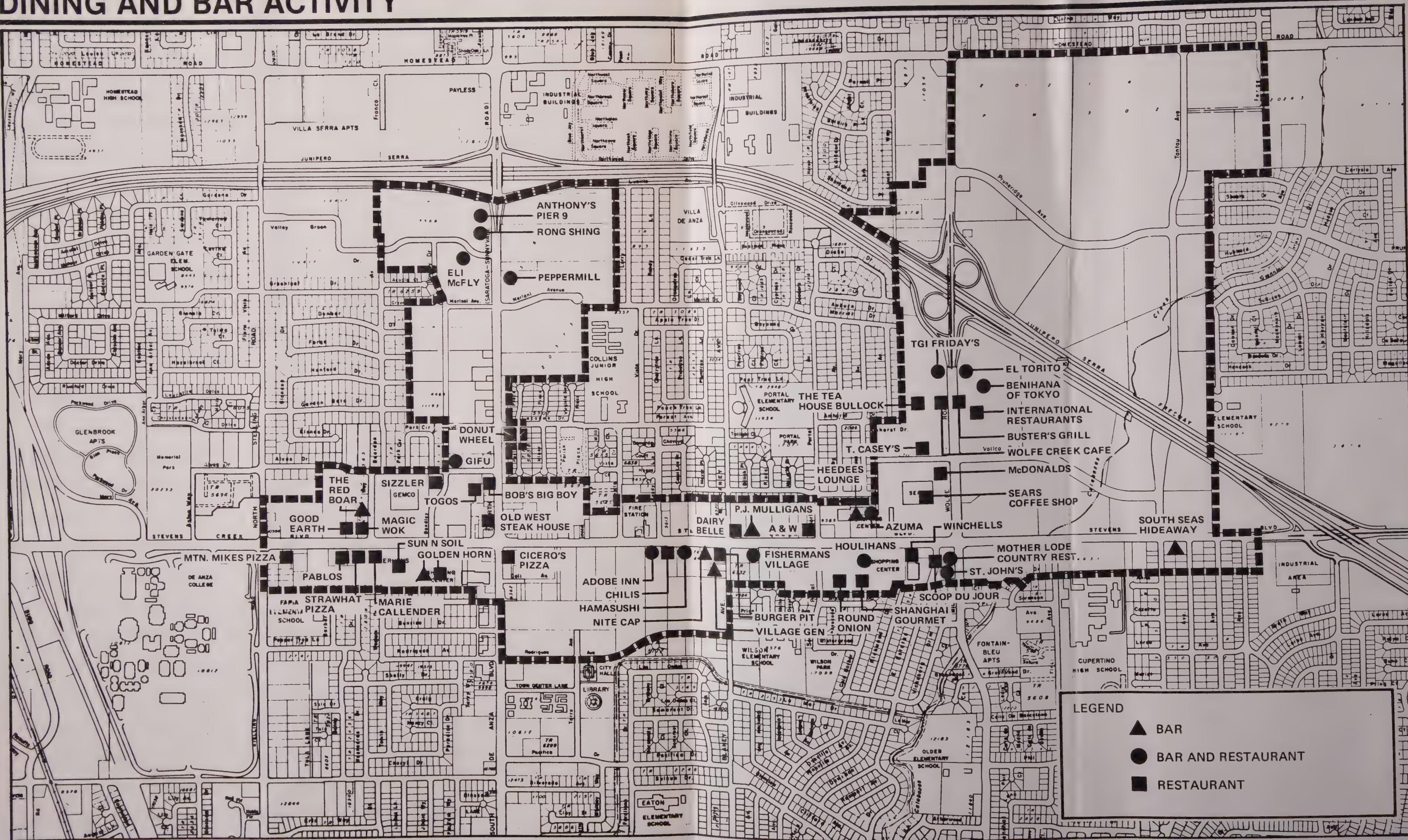


FIGURE 2-7

drinking establishments within the Core Area. The economic feasibility analysis indicates that the Increased and Intermediate Plans could generate a need for approximately 300,000 to 400,000 sq. ft. of restaurant space which roughly translates to the equivalent of 30 to 40 restaurants and drinking establishments the size of the Sandpiper. In actuality, manufacturing and office centers in Vallco Park would continue to provide cafeteria services and existing restaurants would capture some of the future demand so that the actual demand for new restaurants would be less than the theoretical square footage contained within the economic report. One thing is certain, however, the total number of restaurants and drinking establishments will increase significantly if the Increased, Intermediate or similar plan is adopted. Potential solutions to the nuisance problem associated with late evening activities are contained within the mitigation section of this report

Amenities

The Increased and Intermediate Plans provide greater economic incentives for developers to install public amenities such as community rooms, plazas, green open areas and public art. As will be explained in a later section of this report, the greater intensity plan will also facilitate underground parking which can translate into increased green space.

Effect of Growth Options on Physical Form

The four alternative land uses for the Core Area primarily involve changes in the intensity of land use. Changes in intensities will change the development pattern in terms of building form which will, in turn, affect "community character". In the context of the General Plan, the term "community character" is interchangeable with community identity. The concept, which is quite subjective, involves individual perceptions of the community not only from the point of view of physical development but of social aspects as well. An elderly, retired couple living near the edge of the community may have an entirely different perception of the community than a young family with school age children

living near the center of the community. The elderly couple would most probably not be as active as the younger couple and, therefore, their perception of the community character may be limited to their immediate environment. The younger couple would typically be involved in a greater variety of activities related to school and recreation programs. The perception of the community identity may also be affected by the length of residency within the community. For example, a resident who lived in Cupertino for 30 to 40 years may still think of Monta Vista or the Crossroads as the hub of the community. A newly arrived resident's perception of community identity may be tilted towards the Vallco Fashion Plaza. Although each individual may have his or her own perception of the community identity based upon their interests and needs, there may be a few common denominators that could be made into a composite identity for the community. A common perception of the community identity probably includes a sense that the City is primarily comprised of homogeneous residential communities which surround De Anza Boulevard and Stevens Creek Boulevard business and office developments. Stevens Creek Boulevard is probably perceived as a shopping street which links a string of attractively designed shopping centers between De Anza College and Vallco Park. The De Anza College campus and the Cali Mill and surrounding orchards are part of the image. The Cali Mill and orchard are probably subliminally suppressed due to a knowledge that some day the site would be urbanized. Although not attractive, in its own right, the Mill symbolizes the agricultural heritage of the community and, thus, has a very positive image. Its positive image was openly discussed in conjunction with previous Town Center and General Plan discussions which resulted in General Plan policy which requires a future developer to at least assess the feasibility of symbolically including the Mill in future development plans.

One of the long term issues in Cupertino pertains to the importance of creating a stronger identity for the community, either through the creation of a Town Center involving civic functions (a town square concept) or through symbolic identity manifested by a landmark structure.

The City Council has partially resolved the issue of community identity by declaring that the Council is in agreement with the Goals Committee's recommendation that the City should not allocate extraordinary public resources to create a Town Center incorporating civic and business activities in a unified development. The City Council agreed with the concept that community character or identity should be viewed on a Citywidescale. The entire City should ~~create an identity~~ which is distinctive from surrounding communities.

Building Form

The Increased and Intermediate Plan assumptions incorporated higher floor area ratios for the Town Center and Vallco Park areas. The higher FAR's could result in the construction of high-rise structures. In the context of the Cupertino plan, a high-rise structure is a building greater than five stories or 60 ft. in height.* The evaluation of high-rise structures on community character should not be seen as an end in itself. The issue of high-rise or no high-rise should be evaluated based upon how well the structures can harmonize with the surrounding community with particular emphasis on contiguous residential properties. The City already has high-rise structures. Flint Center is approximately 85 ft. tall and the Cali Mill is approximately 60-70 ft. which is equivalent to a 5 to 6 story structure.

* The five stories or 60 ft. height definition was based upon Central Fire District criteria for determining manpower and equipment needs.

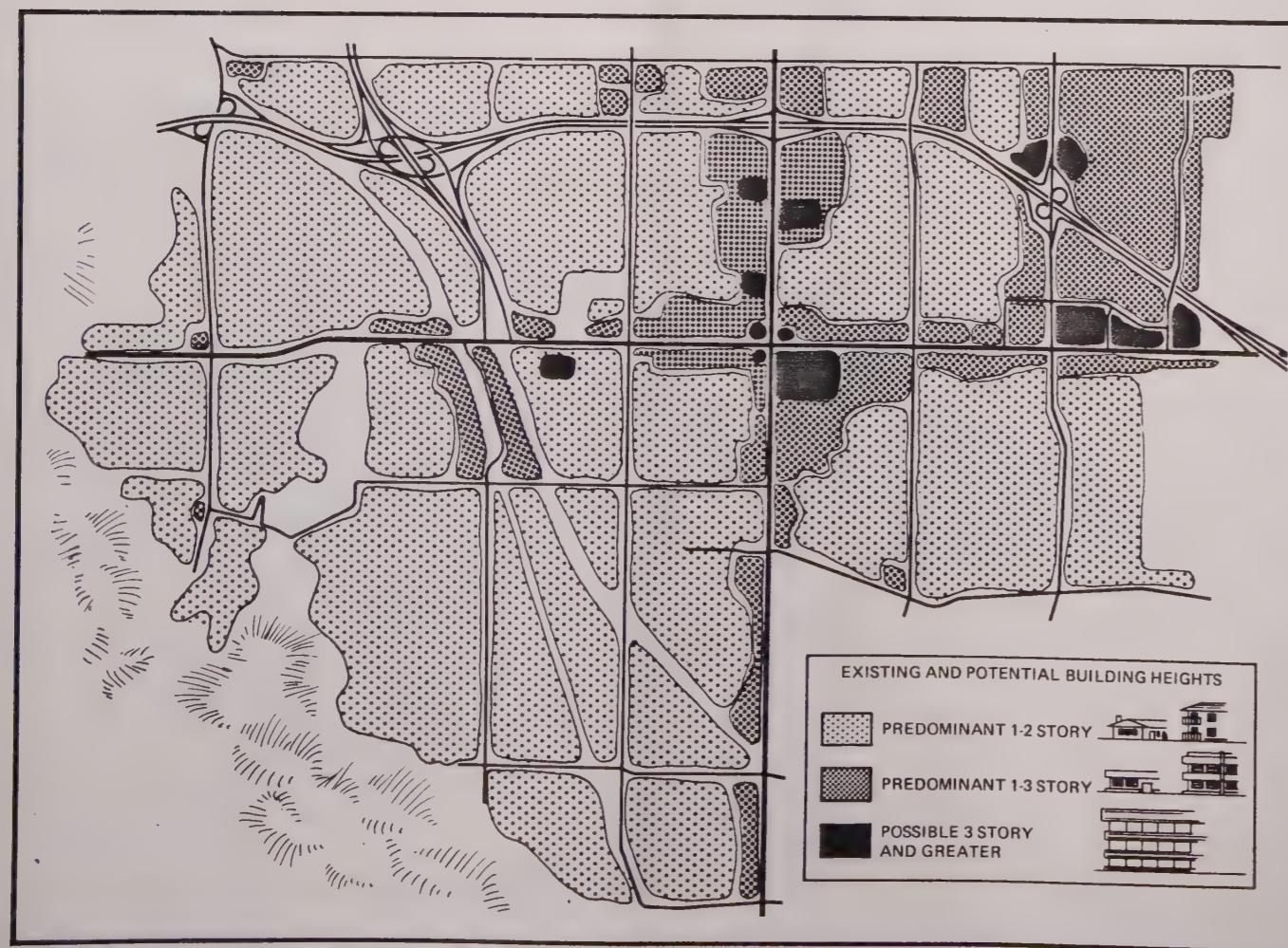
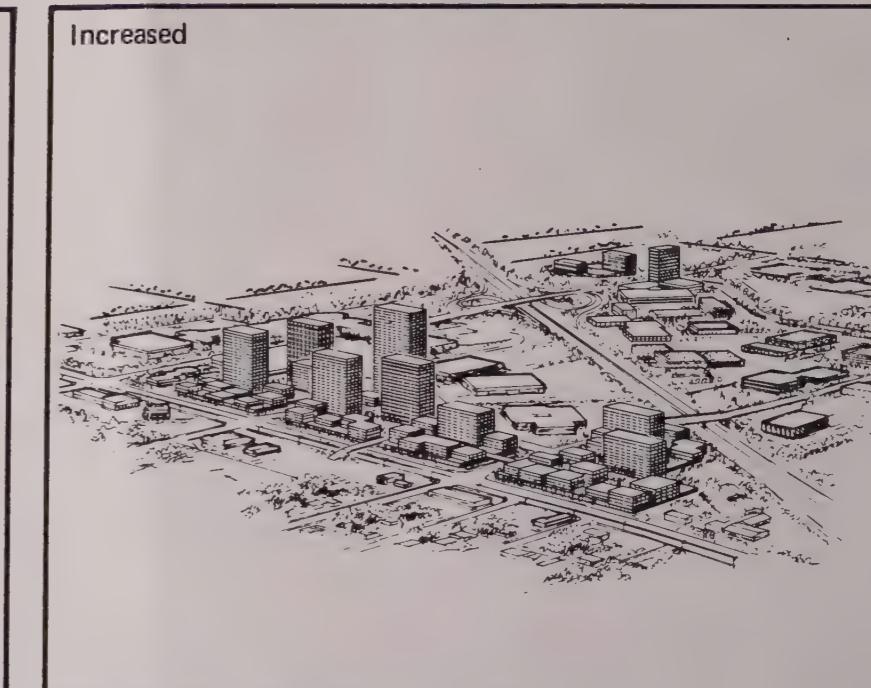
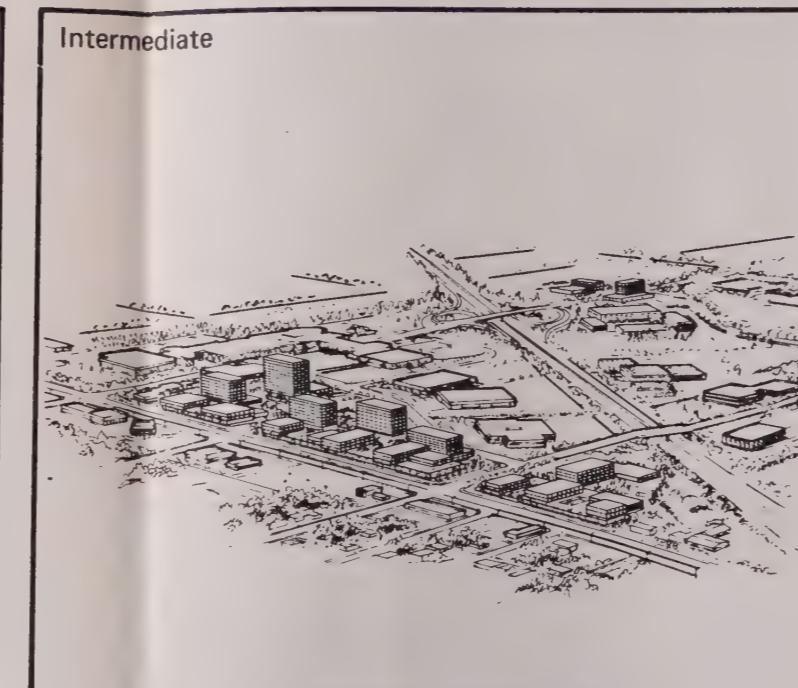
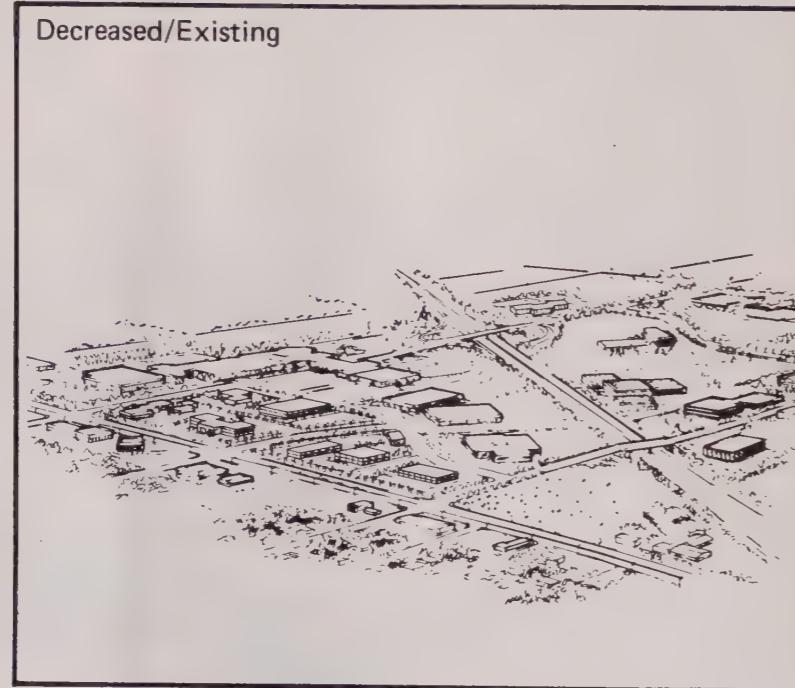
The alternative land use plans for the Core Area limits the high intensity uses to the 50+ acre Town Center Planning Area and the Vallco Park South Planning Area (Vallco area south of 280). The four plan scenarios implicitly assume that it would not be possible or feasible to consider high rise structures along De Anza Boulevard and Stevens Creek Boulevard. That assumption may be challenged by affected property owners during the context of the General Plan hearings.

Figure 2-8 illustrates the potential development form of the community with emphasis on the Vallco Park and Town Center areas. The figure includes an Intensity Map which locates the predominate building types within the community and aerial views for Vallco Park and Town Center based upon the plan scenarios. Figure 2-9 illustrates the current development pattern for Vallco Park and Town Center. Figures 2-10 through 2-15 provide eye-level perspectives of Town Center and Vallco Park from various locations. The aerial views and the eye-level perspectives convey an image of how the Vallco Park and Town Center areas would appear based upon implementation of the alternative land use plans.

The development illustrated on the Figures 2-8 through 2-15 do not represent a specific development proposal by the owners of either properties. The depicted developments are hypothetical plans developed by the Cupertino planning staff to assist the reader in translating development intensities into building forms. It should be emphasized that Floor Area Ratios depicted on the plan alternative maps (Figures 1-3 through 1-6 of the Introduction section) could be configured in a variety of forms. For example, the Increased Intensity options for Vallco Park depicted on Figure 2-8 illustrates a series of relatively high structures contrasted by some lower two to three story structures adjacent to

LAND USE MAP AND PHYSICAL FORM

VALLCO PARK



TOWN CENTER

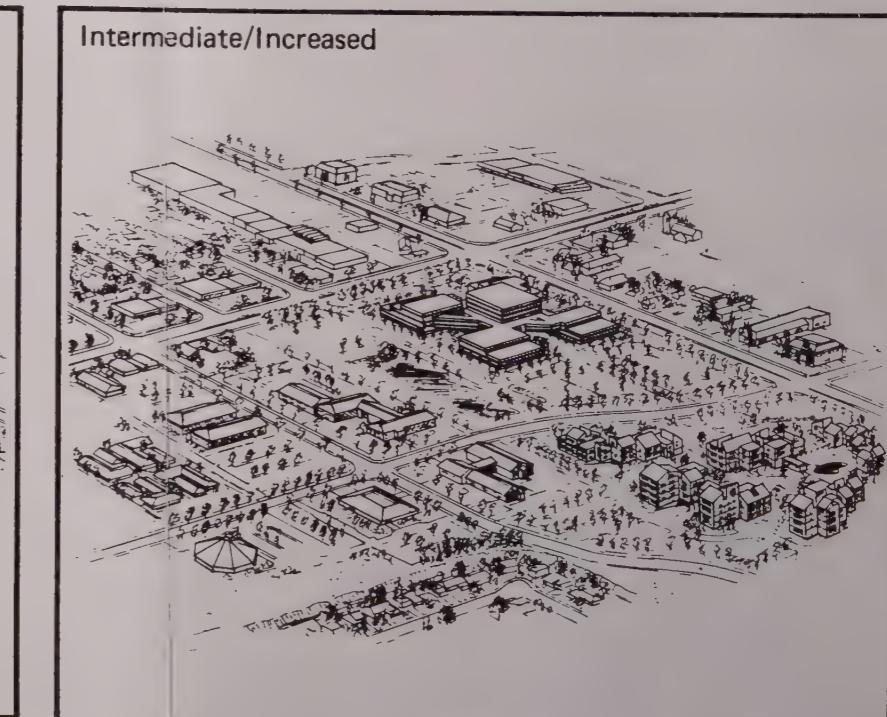
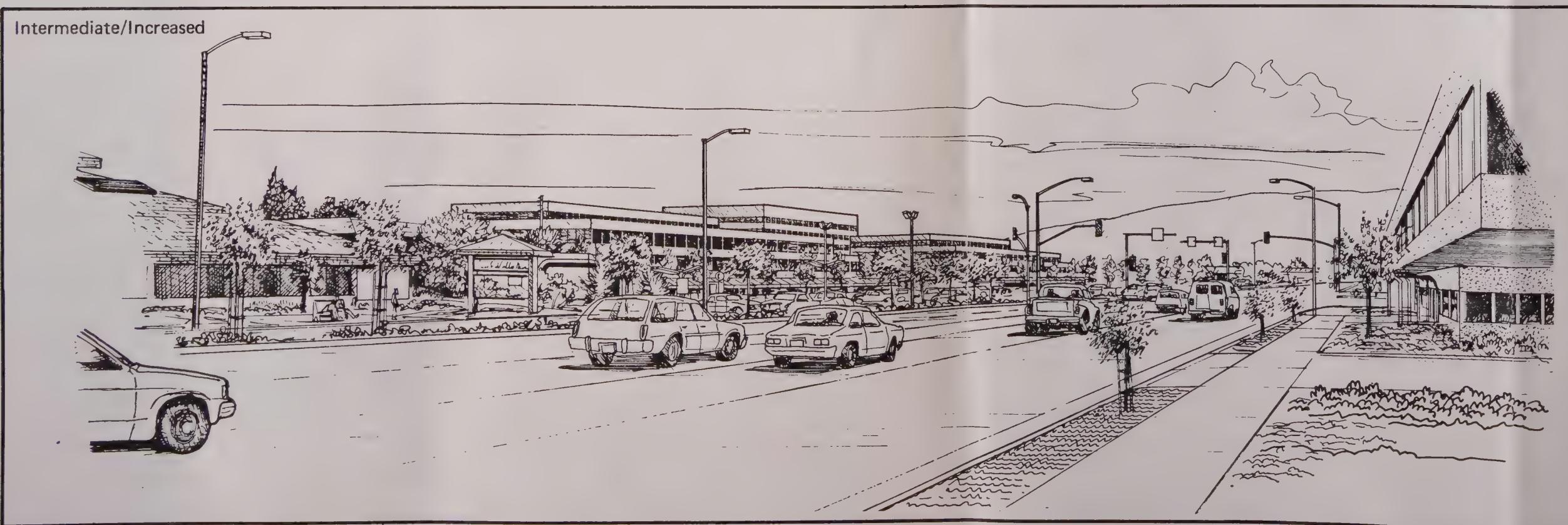
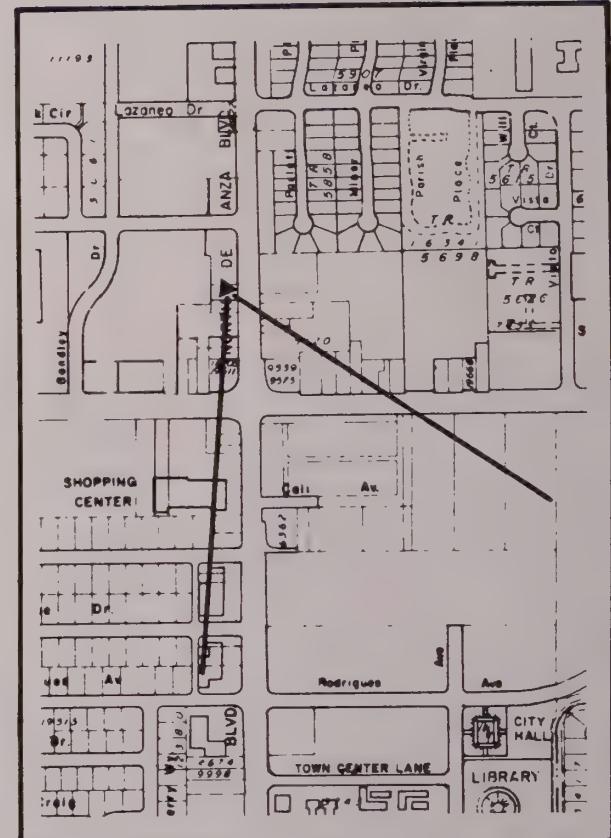
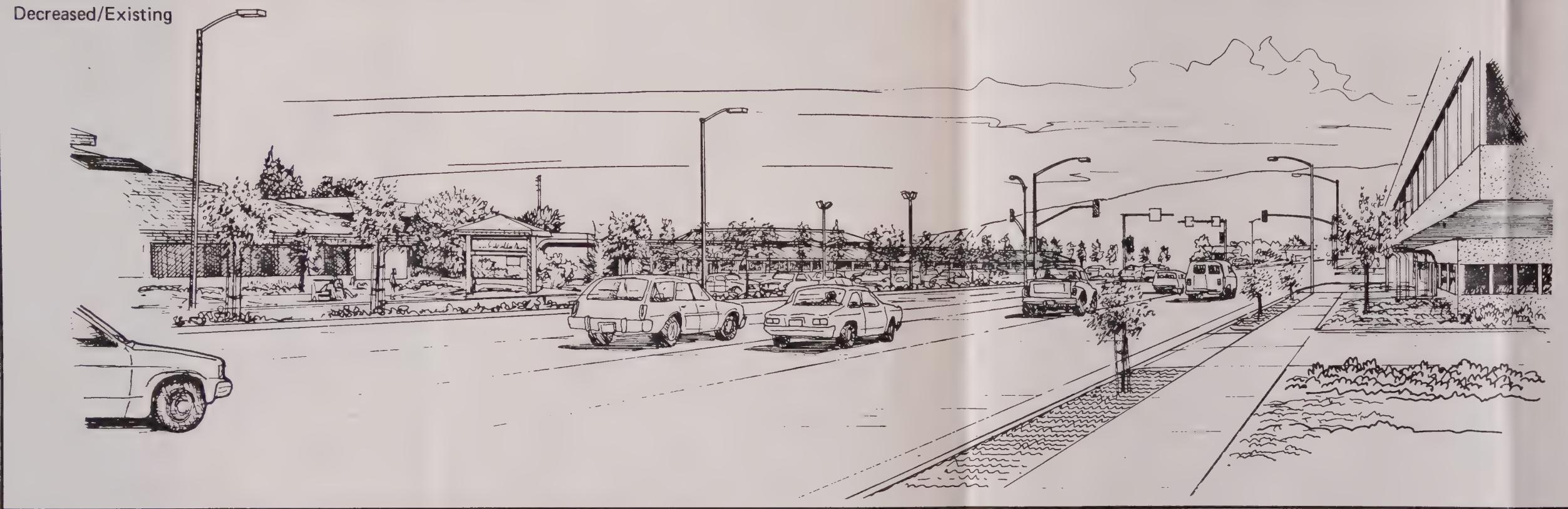


FIGURE 2-8

STREET LEVEL VIEWS OF PHYSICAL FORM

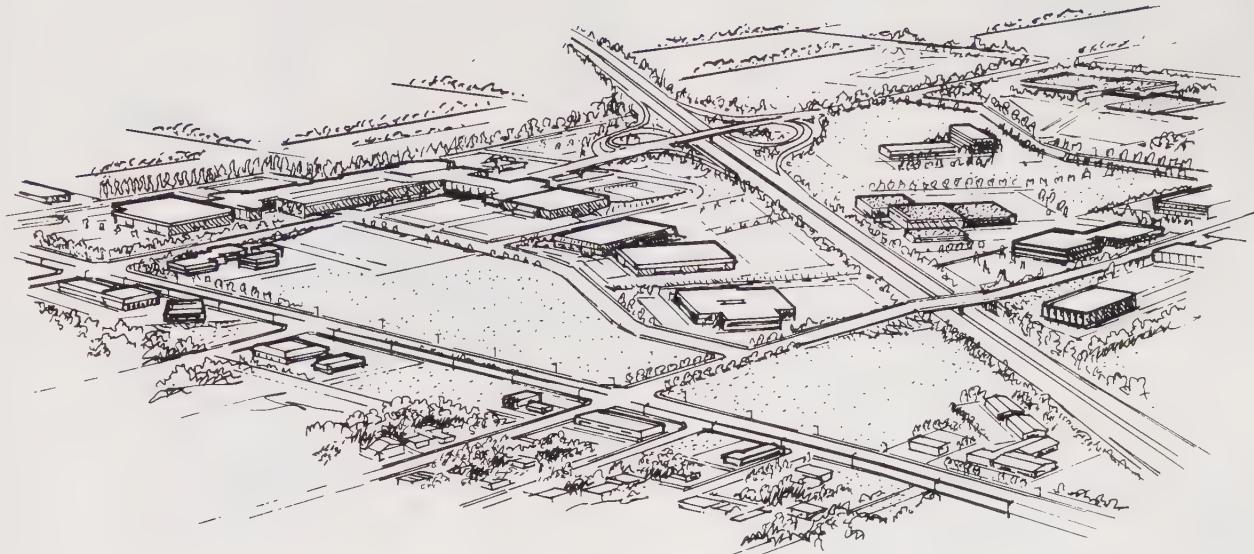
FROM NORTH DE ANZA BLVD.

TOWN CENTER



DEVELOPMENT PATTERN: 1982

VALLCO PARK



TOWN CENTER

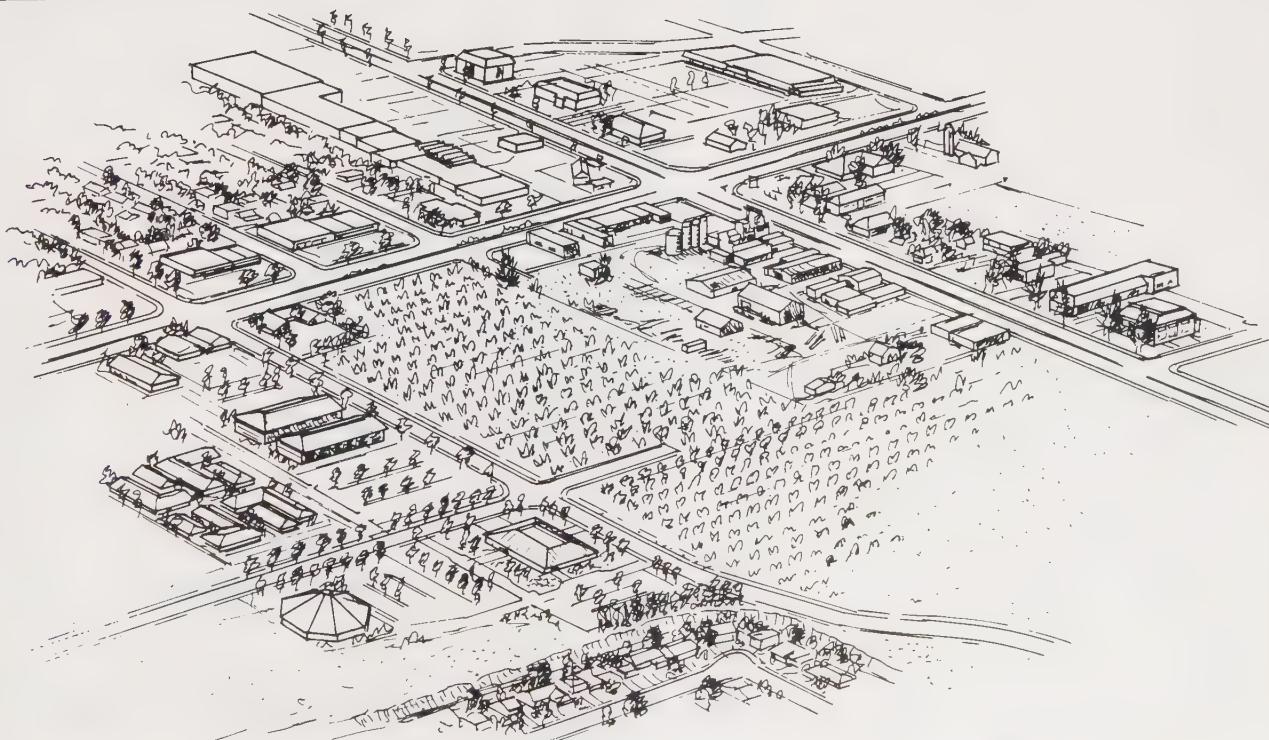


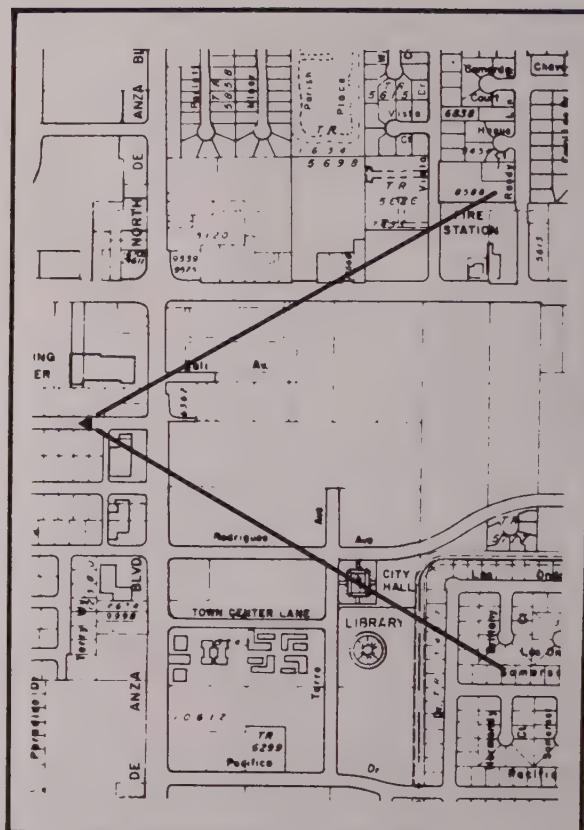
FIGURE 2-9

STREET LEVEL VIEWS OF PHYSICAL FORM

FROM SCOFIELD DRIVE

TOWN CENTER

Decreased/Existing



Intermediate/Increased



FIGURE 2-11



STREET LEVEL VIEWS OF PHYSICAL FORM

VALLCO PARK

FROM WHEATON DRIVE

Intermediate



Increased



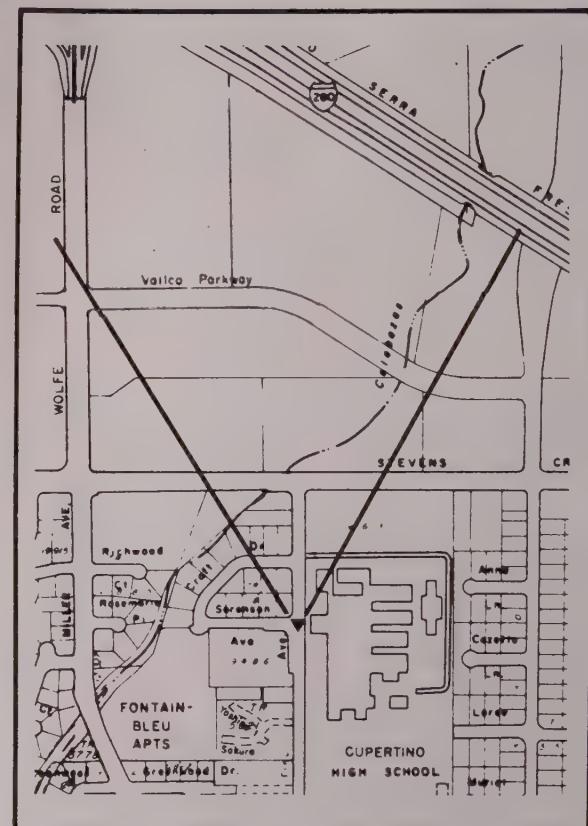
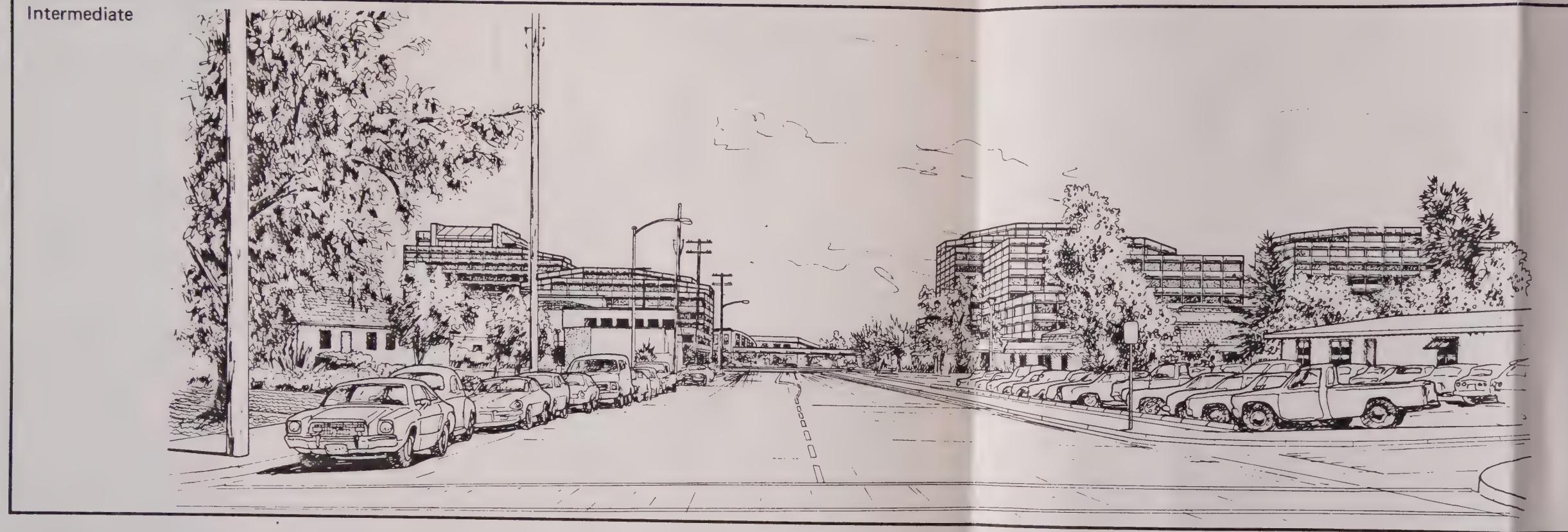
FIGURE 2-12

STREET LEVEL VIEWS OF PHYSICAL FORM

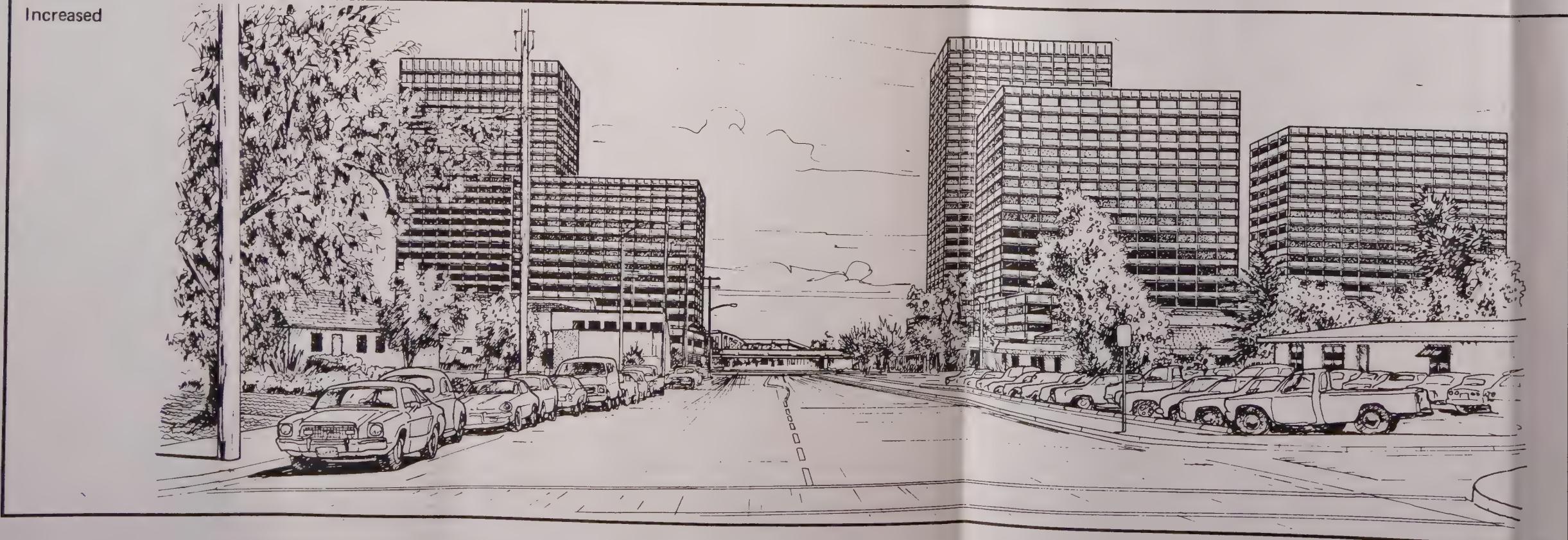
FROM FINCH AVE.

VALLCO PARK

Intermediate



Increased

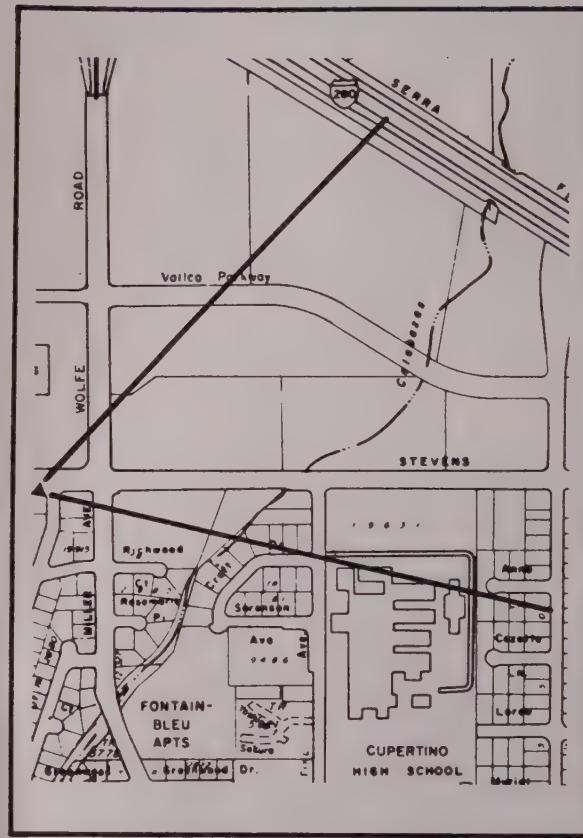
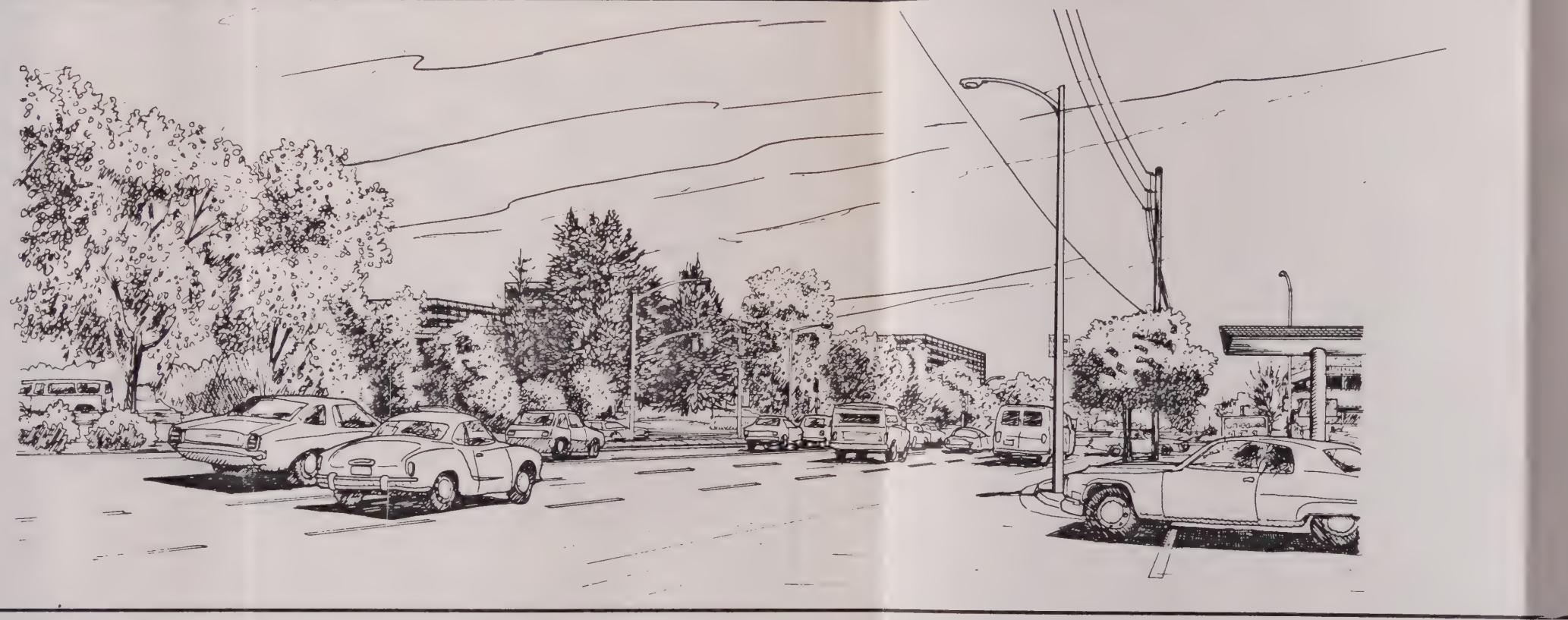


STREET LEVEL VIEWS OF PHYSICAL FORM

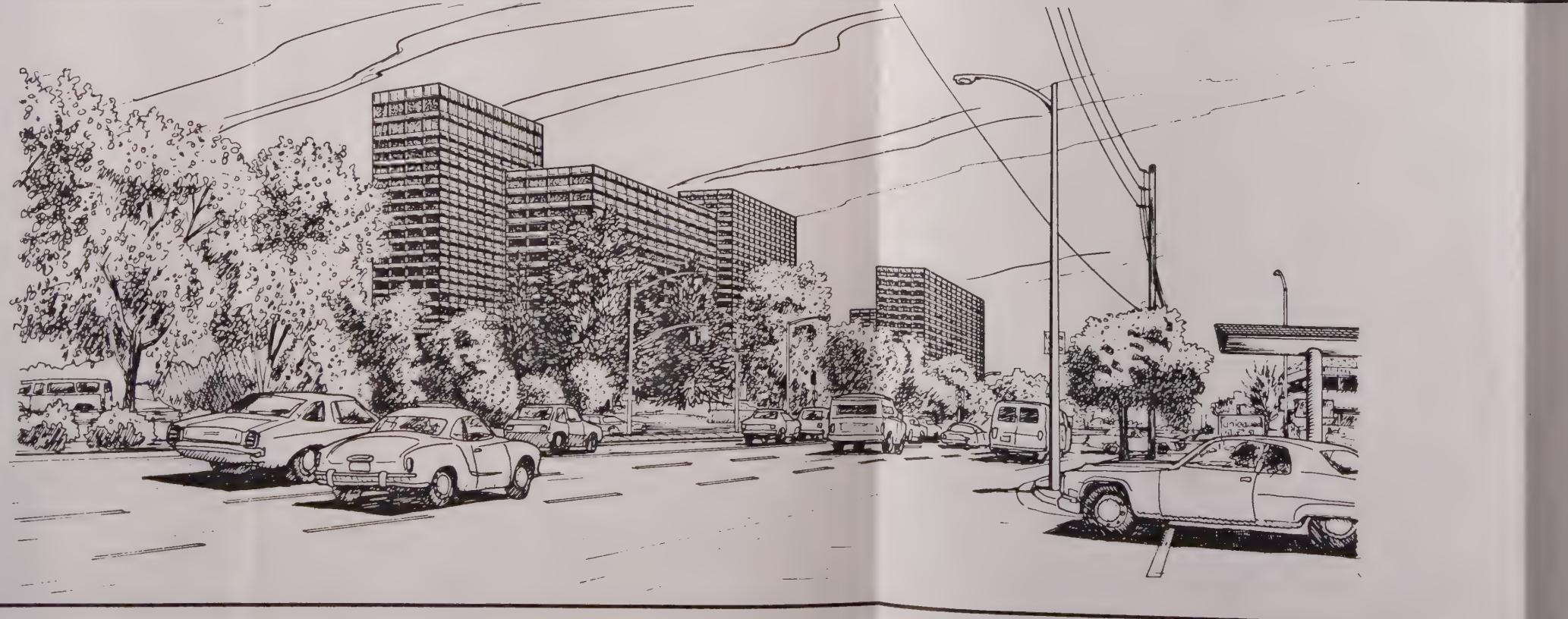
FROM STEVENS CREEK BLVD.

VALLCO PARK

Intermediate



Increased

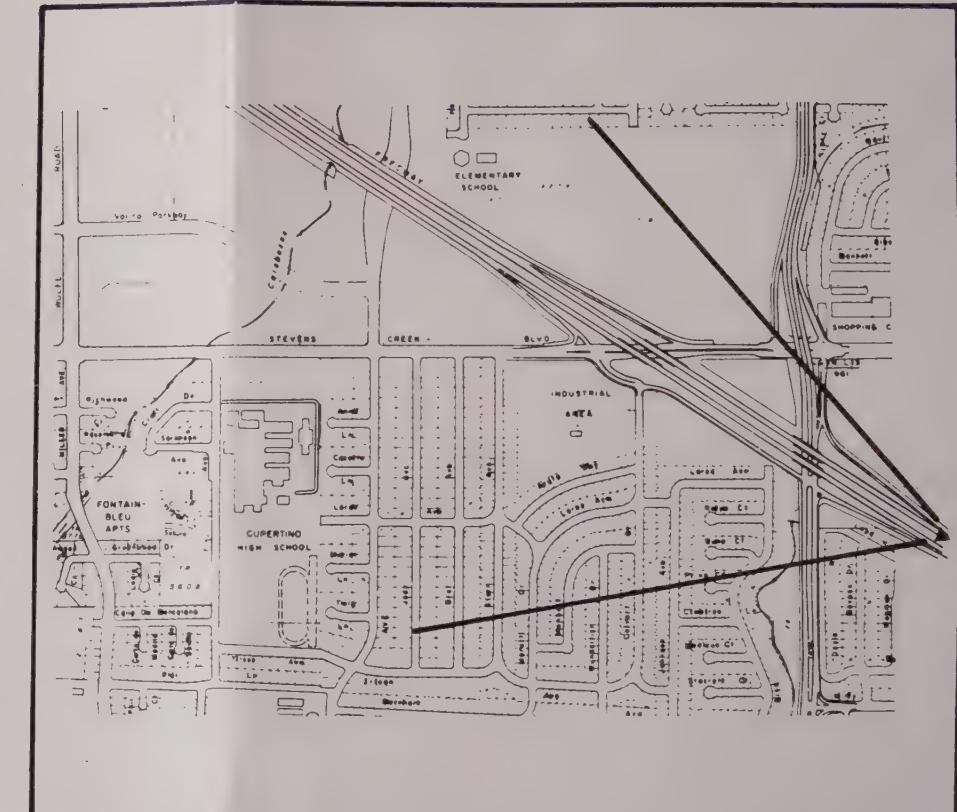


STREET LEVEL VIEWS OF PHYSICAL FORM

FROM I-280

VALLCO PARK

Intermediate

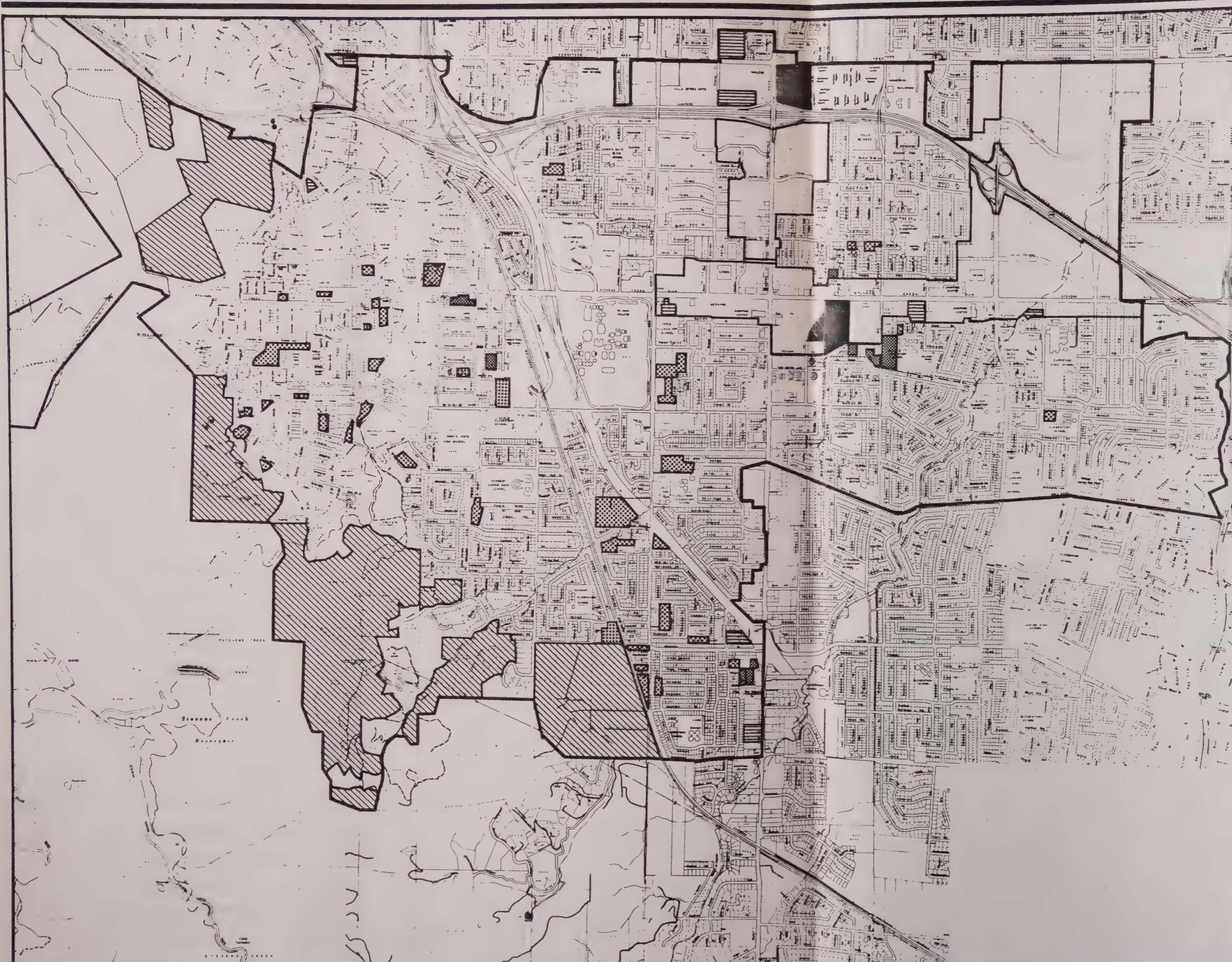


Increased



FIGURE 2-15

POTENTIAL RESIDENTIAL DEVELOPMENT



LEGEND

COMMITTED NEW GROWTH
(D.U./Gr. Ac.)

- Very Low
- Low: 1-5
- Medium: 5-10
- Medium High: 10-20
- High: 20-35

FIGURE 3-2

Stevens Creek Boulevard. If the Increased Plan is adopted, the building form could be reconfigured to lower structures. For example, if the City were to approve the Increased Plan (assuming that the plan will not overtax the transportation system, sewer system, and other public facilities) with the understanding that the buildings be as low as possible, the 2.2 and 1.35 Floor Area Ratio could, in theory, result in two and one story buildings over the entire site. The small portion of the building would exceed the two and one story configuration in order to accommodate the .2 and .35 remainders. Parking could either be underground or on top of the structure. The point of the last two paragraphs is to point out that the higher Floor Area Ratio do not necessarily mean a series of 15 to 20 story structures would be built within the Vallco Park, nor does a .75 Floor Area Ratio necessarily mean that a six story structure will be constructed within the Town Center.

Although a future architect would have a great deal of latitude based on the Floor Area Ratio to determine building height, one of the objectives of the General Plan review is to establish basic guidelines for building height.

Mitigation Measures

Figure 2-16 describes the general location of existing and approved high-rise structures within the South Bay Area from San Bruno on the west side of the Bay to Fremont on the east side. As evidenced by Figure 2-16, high-rise structures tend to locate in the older, central portion of cities and along major transportation corridors.

In some instances, the construction of high-rise buildings has been accomplished in a harmonic manner and were well received by local citizens while, in other instances high-rise structures were disruptive which resulted in public policy to discourage future high-rise construction. Public acceptance or lack of public acceptance for intensity increases in general and for high rises

HIGH RISE BUILDINGS IN THE SOUTHERN BAY AREA*

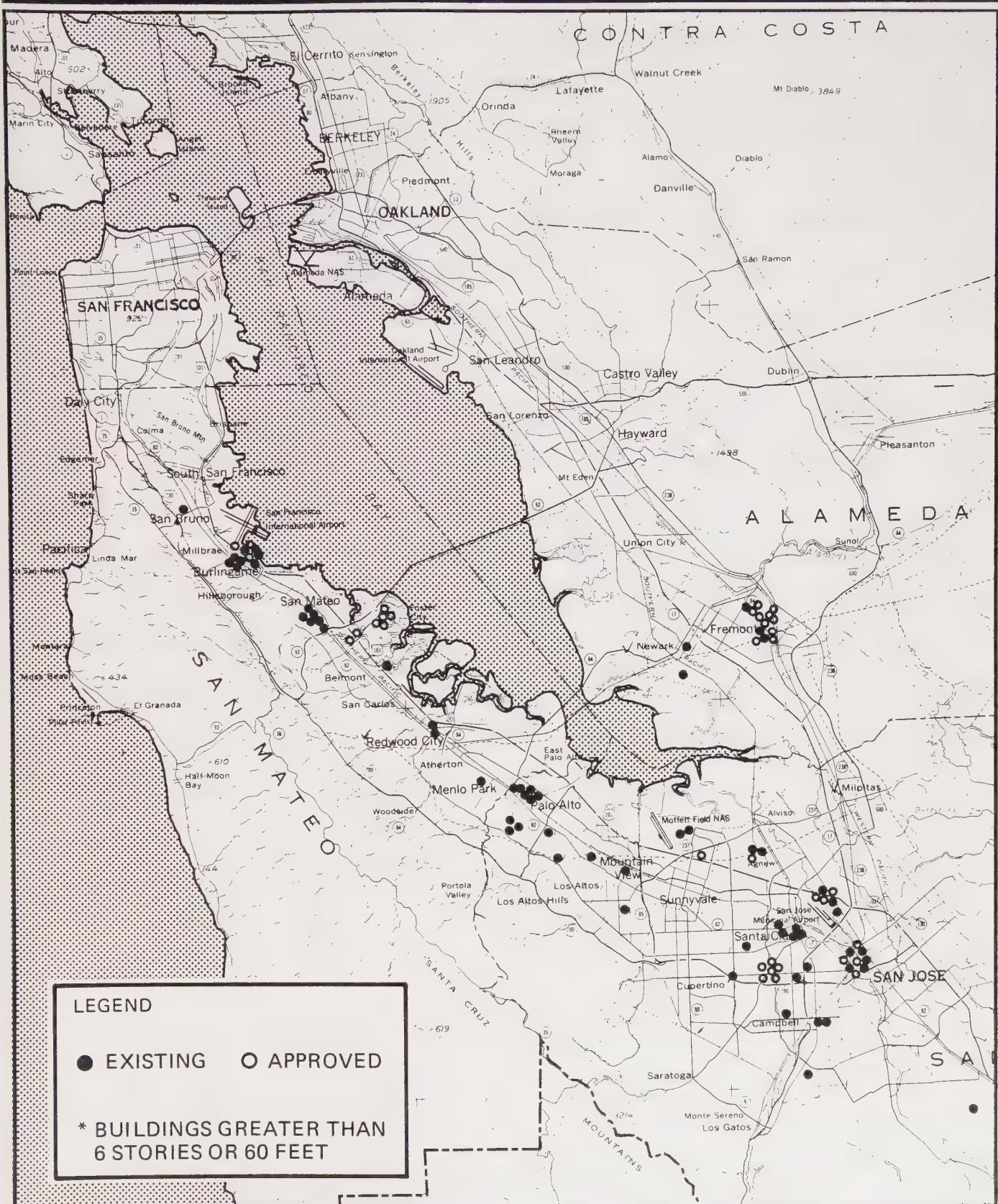


FIGURE 2- 16

specifically will depend to a large degree on whether higher intensities can be physically accommodated in terms of the traffic system and other community servicing facilities and, more importantly, whether greater intensities can be assimilated without drastically transforming the character of the community and drastically overwhelming a sub-neighborhood within the community. The City can adopt Floor Area Ratios and other mechanisms to control the square footage of buildings and regulations can be imposed to regulate the physical height of structures. However, the control of building square footages and heights does not guarantee good quality design. Design guidelines are needed to ensure that if greater intensities are approved, the community as a whole and Core Area residents are not adversely affected. The mitigation section of the Land Use/Community Character Element contains an analysis of the overall aesthetic affects of high-rise construction and design principles to soften or mitigate negative aspects. The Plan also contains overall large scale site planning policies to integrate high-rise development into the community as a whole, thus, enabling the community to avoid an ad hoc decision involving higher intensity and high-rise development vis-a-vis an individual development application. In addition to looking at broad scale site concepts and height, the mitigation section contains design guidelines providing incentives and disincentives to regulate land use activities that may occur within the community based on each of the four land use planning options.

Policies

1. The Community Form and Appearance Diagram, labeled Figure 2-17 and delineated below, shall be adopted and shall function as an urban design overlay for the General Plan Land Use document. Figure 2-17 is subject to urban design refinements embodied in subsequent design policies enumerated below (a final height option for Town Center and Vallco Park will be determined by the Planning Commission and City Council).

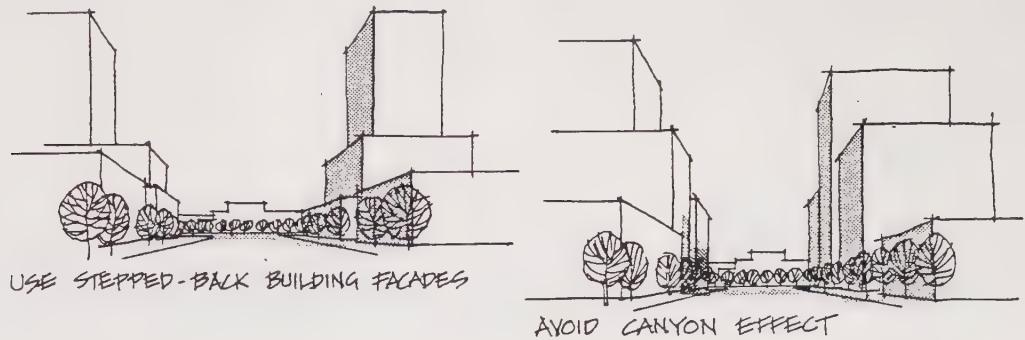
**Figure 2-17
COMMUNITY FORM
AND APPEARANCE
DIAGRAM**



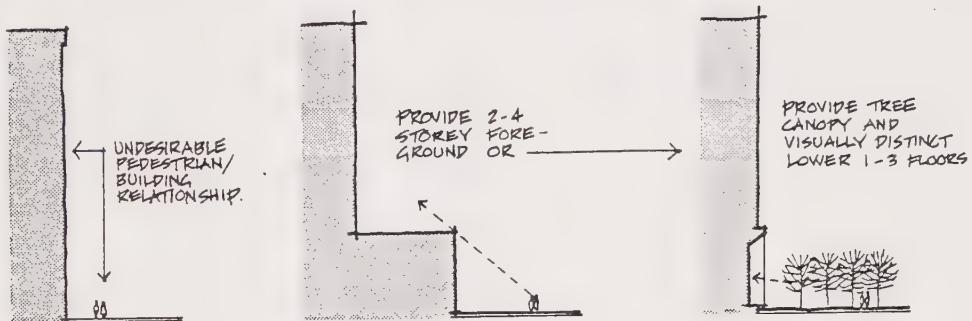
2. The maximum height, form and siting of multi-story buildings shall be guided by the following design principles.

- In order to avoid a monotonous wall-like appearance on street frontages,

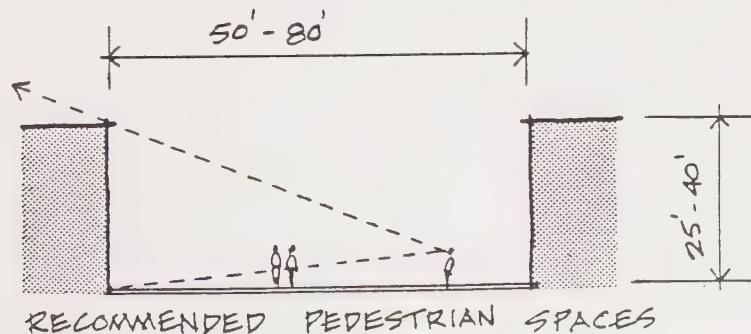
buildings should be oriented perpendicular to a major street, setbacks and heights should be varied and building facades should be broken into several planes.



b. Abrupt pedestrian exposure to tall building facades should be avoided to retain "human scale" at ground level.



c. A comfortable scale should also be achieved within the Town Center and Vallco sites. In those outdoor areas designed to accommodate pedestrians both excessive width of the open spaces, with the exception of major plazas or park areas, should be avoided as should tall structures along the immediate edge of the pedestrian area.



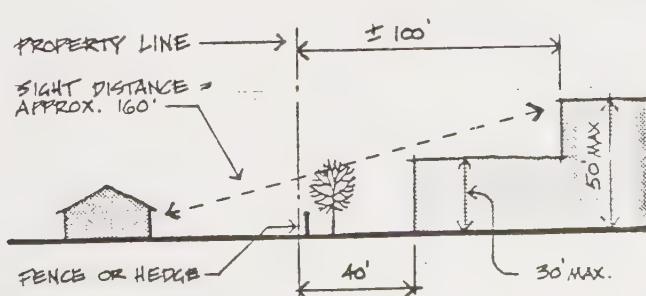
d. In general, abrupt changes in building scale should be avoided. As shown below, a more gradual transition between the prevailing one and two story development and low to mid-rise structures should be achieved by introducing three and four story buildings at the perimeter of the project site.



e. To provide an acceptable transition between the residential and non-residential or mixed use areas, the following guidelines should be adhered to.

1. Maintain a setback and height relationship equivalent to the prevailing streetfront relationships within the adjoining residential area.
2. Provide a five to six foot buffer wall or screen along the common property line and supplement with continuous planting of trees which will provide a 20 to 30 ft. high visual screen. Where the trees are planted along the south edge of a residential property, maintain a setback sufficient to prevent shading of the residence's backyard.
3. Provide for visual privacy by limiting portions of the structures in excess of 30 ft. height to areas of approximately 100 ft. from the rear property line, orienting the narrow face of the structure toward the residential properties and/or eliminating facing windows or providing screens or louvers which prevent direct visual contact.

More locationally specific guidelines should be incorporated into a specific plan for these areas.



3. The majority of automobile parking spaces in the Town Center and Vallco Planning Area shall be below grade. Residual surface parking shall be hidden from public view. The required number of off-street parking spaces for multi-story commercial, office and industrial projects in the Core Area may be determined in conjunction with a specific development proposal, however, the following parking ratios serve as a guide.

Commercial - 1 space for each 250 gross sq. ft.

Office - 1 space for each 300 gross sq. ft.

Industrial - 1 space for each 250 net sq. ft.

4. Land use intensity for commercial, office and industrial activities in the entire City shall be regulated by a Floor Area Ration (F.A.R.) depicted on the land use diagram of the General Plan or otherwise described in written text. The F.A.R. shall supercede the Traffic Intensity Performance Standards previously imposed on properties located in the North De Anza Boulevard and Stevens Creek Boulevard Planning Area.

5. In order to protect residential neighborhoods from intensive elements of late evening activities, future cocktail lounges, late evening restaurants and motion picture theaters shall be isolated by distance and/or extensive acoustical measures against interior and exterior noise sources. Precise standards shall be developed in conjunction with a subsequent Stevens Creek Boulevard Specific Plan.

6. Corporate office and research and development activities may occupy space in commercial and office designated properties if said activities can be operated and their building space is designed to resemble commercial and office activities. Corporate office/R & D activities in the Town Center Planning Area must be mixed with limited commercial and general office space to create a sense of public place.

3 HOUSING

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HOUSING

Introduction

Each of the four Core Area Land Use Amendments will have a direct affect on the supply and demand of housing in Cupertino and the region. The purpose of this section is to measure the affects and describe possible mitigation techniques. This section is intended to evaluate the relative affects of each land use plan on housing policy. Therefore, the section will concentrate on the implication of employment growth and residential land availability on the demand and supply of housing. This section will also generally describe the affordability of housing for future employees and will discuss the implications of the supply demand analysis on the Association of Bay Area Governments' (ABAG) Regional Housing Allocation Model. All of the statutory provisions of Article 10.6 of the Government Code related to the preparation of a Housing Element, including an implementation program, will be incorporated into a revised General Plan once key land use and circulation decisions are made.

Existing Housing Goals and Policy

The existing General Plan categorized housing policy into four major headings:

1. Increasing supply of housing.
2. Insuring that the housing increases provide a range of opportunity for all economic segments.
3. Neighborhood and housing conservation.
4. Fair housing practices.

In December of 1981, the Cupertino Goals Committee submitted its report, entitled, "Looking Forward to the 1980's" to the City Council for consideration. The Goals Committee Report contains recommended goals and policies regarding housing that essentially reflect the existing General Plan in terms of the needs for increasing housing supply, neighboring conservation and fair housing practices. The Goals Committee recommendation differs, however, in terms of continuation of

inclusionary zoning practices and the use of Government subsidies.

The existing General Plan requires inclusionary housing (BMR Program) and strongly advocates the use of Government subsidies, when available, to meet housing needs. The Cupertino Goals Committee recommends that the City discourage the use of subsidies of any kind by relying on the marketplace to satisfy housing needs. The Goals Committee recommends the use of incentives for the free market to create affordable housing such as allowing greater intensities of residential development and use of "in-law" or "Granny" quarters or permitting single-family homes to be shared by two or more families. The policy differences will be reconciled during the public hearing process for the General Plan Amendment.

Quantitative Measures

The "existing" and "future" settings will be analyzed in terms of jobs/housing balance, land availability for housing, housing affordability and ABAG's Regional Allocation Plan. A brief explanation of each measure follows:

Jobs/Housing Balance

The "jobs/housing" balance equation is an index that can be used to define the relationship between employment growth and housing availability in a geographical setting. The index was used extensively by ABAG and the Metropolitan Transportation Commission (MTC) in the preparation of the Santa Clara County Corridor Study. The report concluded that the job-rich North County cities and bedroom community in South County created an imbalance which increased commute distances and attendant air quality and energy problems and created fiscal disparity between cities. The report concluded that transportation problems could be improved if the North County/South County jobs/housing gap was closed.

The 1980/1981 Santa Clara County General Plan effort and two citizen based Task Force reports which preceded it also emphasized the need to numerically and

geographically balance job growth and housing opportunity. The County Housing Element emphasized the need to contain employment growth in North County cities. The details of a Growth Management Plan were to be developed and monitored by the County's Intergovernmental Council (IGC).

The County General Plan projected housing unit growth from 438,000 in 1979 to approximately 531,400 in 1990. Conversely, the County projected job growth to expand from approximately 660,000 to 885,000 jobs. In order to create a better balance between housing and jobs, the Plan contains an established growth limit of 775,000 jobs within the County and recommended that the housing densities be increased where possible. In all likelihood, the goal will not be attained and job growth could possibly expand well above the 885,000 jobs originally forecasted. Although a jobs/housing balance analysis is somewhat invalid on a local city-by-city basis because it does not adequately account for established land use patterns, and land availability and housing price considerations which cannot easily be altered, it can function as an index to assess the relative effort of land use decisions on housing supply and demand. In fact, the recent enactment of Government Code 65913.1 which requires each city and county to "designate and zone sufficient vacant land for residential use with appropriate standards, in relation to zoning for non-residential use, and in relation to growth projections of the General Plan to meet housing needs as identified in the General Plan" gives the jobs/housing balance index some validity. The jobs/housing ratio is sensitive to changes in a number of key variables related to employment and housing supply. Examples of the variables are listed below:

Employment (Housing Demand) Factors

1. Acres of land available for expansion of the employment base (industrial and commercial).

2. Employment type in terms of employees per acre (labor or capital intensive industry).
3. Employee household income (ability to afford housing).
4. Employed worker per household.

Housing Supply Factors

1. Acres of land available for residential growth.
2. The permitted density of undeveloped residential property.
3. Housing price (caused by interest rates, locational demand, and unit type).
4. Households occupied by non-workers (retired seniors, students) or workers on steady or declining incomes.

Housing Availability

The amount of land available for housing and permitted density ranges for said land for each land use alternative will be analyzed for the existing and future setting. In reality, the established land use pattern is a major constraint against the designation of additional land for housing and the designation of existing planned housing sites for greater intensity.

Housing Affordability

The ability of existing and future employees to live in the community is assessed for the existing and future setting. Overpaying and specified housing needs for seniors, single heads of household and other groups will be assessed in the Phase Three editing of the Housing Element.

ABAG Regional Allocation Plan

The State Government Code requires each Council of Government to prepare a Regional Housing Allocation Plan for its sphere of influence. The Plan's purpose is to define regional housing needs and to determine each city's commitment to meet that need over a five year period.

Existing Setting

Jobs/Housing Balance and Housing Availability

Table 3-1 identifies the existing dwelling unit total and mix by category within the community. As evidenced by the chart, approximately 62% of the dwelling unit mix in the community is in the low 1-5 and very low (hillside) categories. Approximately 15% are in the medium 5-10 range and 20% are in the medium high 10-20 range.

TABLE 3-1

January 1981 Urban Service Area Dwelling Unit Mix

High 20-35	0	0%
Medium High 10-20	3,210	20%
Medium 5-10	2,450	15%
Low 1-5	9,722	60%
Very Low	222	1%
Group Quarters	430	3%
Single Home on Developable Land	54	0%
<hr/>		
Totals	16,088	100%

Table 3-2 identifies the existing employment, both inside and outside of the Study Area. As evidenced by the Table, the bulk of the 28,900 employees within the community are employed in the industrial sector of the economy.

TABLE 3-2

January 1982 Employment Estimates

Employment Sector	Outside Study Area	Inside Study Area	Total
Commercial	2,063	4,045	6,108
Office	1,894	1,878	3,772
Industrial	2,880	13,515	16,395
Other	2,633		2,633
<hr/>			
Total Employment	9,470	19,438	28,908

NOTE: The employee calculations were based upon applying the following employee generation factors to estimated building areas for various land use types.

Commercial - 2 employees per 1,000 sq. ft.

Office - 4.4 employees per 1,000 sq. ft.

Industrial - 4 employees per 1,000 sq. ft.

Based upon the above dwelling unit and employment data and assuming a 1.5 employed resident/household factor, the present jobs/housing ratio is 1.2 jobs per housing unit. The ratio was derived by the following computation.

$$28,900 \text{ employees} \div 1.5 \text{ employed residents/household factor} = 19,272 \text{ housing demand}$$
$$19,272 \text{ housing demand} \div \text{housing supply} = 1.20 \text{ jobs/housing ratio}$$

Housing Affordability and ABAG's Regional Allocation Model

While the jobs/housing equation provides an index of the supply and demand equation for housing in Cupertino relative to employment growth, a more detailed analysis is needed to determine whether the present employment base can theoretically afford to live in Cupertino. While one may argue about the relevancy of an assessment of housing affordability for persons already working in the community, the assessment does have value because employee and residential populations are not static. Therefore, even if the number of employees and the number of dwelling units remain constant, it is important to determine whether new employees could afford to live in houses vacated by existing residents.

Based upon data developed by Questor, for the Economic Analysis Appendix, it is possible to categorize existing employees into income ranges. The number of existing employees by land use type is described in Table 3-2. Table 3-3 describes the distribution of existing employees by job classification and income.

TABLE 3-3
Distribution of Employees by Income

<u>Annual Income</u>	<u>Clerical</u>	<u>Professional</u>	<u>Administrative</u>	<u>Retail</u>	<u>Total</u>
Under 10,000	735			4,886	5,621
10,000 - 19,999	3,348			916	4,264
20,000 - 39,979		8,292	6,128	305	14,725
40,000 and above		2,764	1,533		4,297
Total	4,083	11,056	7,661	6,107	28,907

The housing affordability tables in the Economic Appendix indicates that the annual income listed in Table 3-4 were required to purchase various types of housing in Cupertino in 1981. The low end of the house price for each category is used in the analysis.

TABLE 3-4

	Purchase Price	Down Payment	Interest Rate	Required Annual Income
New Single-family	172,000	10%	16%	\$83,000
Single-family resale	137,681	10%	13%	56,000
New condominium	60,000	10%	16%	29,000
Condominium resale	122,713	10%	13%	50,000
Monthly Housing Expense				Required Annual Income
Rental Housing (2Bedroom)	575			21,000

Source: Economic Technical Appendix (Pages 92-96)

A comparison of Tables 3-3 and 3-4 demonstrates that very few Cupertino employees have high enough incomes to qualify for the purchase of a Cupertino home even when considering that the average employed resident per household is 1.5. However, apartment rentals remain in reach of most employees working in Cupertino. Of course, as explained earlier, many existing workers own a home and, therefore, the comparison is meaningless. The comparison is meaningful for new workers who do not equity in an existing property and for an assessment of future job growth options.

Regional Allocation Model

ABAG's Regional Allocation Plan distributes the regional housing need to all jurisdictions in the regions over a five year period. The projections were based upon a composite of each jurisdiction's 1979 General Plan and ABAG's projected household and employment growth rates.

The computed housing need in 1985 based upon Cupertino's General Plan and the growth rates discussed above is 1,786 new housing units. The mix of needed housing units by income is described in Table 3-5.

TABLE 3-5

Estimated Number of Available or New Housing Units
Needed by Income Group

<u>Available Housing Needed Increase</u>	<u>Above Moderate Income</u>	<u>Moderate Income</u>	<u>Low Income</u>	<u>Very Low Income</u>
1,786	1,178	286	161	161
	(66%)	(16%)	(9%)	(9%)

Source: ABAG projections based on the Regional Allocation System

Future Setting

Jobs/Housing

Tables 3-6 and 3-7 describe existing and future dwelling units and employment counts. The projected values are delineated for each land use alternative for the periods of 1981-1986 (1982 for employment) and 1986-1990. Total figures are provided for 1990 which is the presumed build-out date.

Figure 3-1 identifies the 1990 jobs/housing balance for each of the four land use alternatives. The jobs/housing computation assumes a 1990 employed resident per household factor of 1.8.

FIGURE 3-1

1990 Jobs/Housing Ratios for Four Land Use Alternatives

Increased Plan

$$57,561 \text{ Jobs} \div 1.8 \text{ E/H} = 31,978 \div 19,730 \text{ DU's} = 1.62 \text{ Jobs/Housing Ratio}$$

Intermediate Plan*

$$52,136 \text{ Jobs} \div 1.8 \text{ E/H} = 28,964 \div 20,670 \text{ DU's} = 1.40* \text{ Jobs/Housing Ratio}$$

Existing Plan

$$38,753 \text{ Jobs} \div 1.8 \text{ E/H} = 21,529 \div 19,610 \text{ DU's} = 1.10 \text{ Jobs/Housing Ratio}$$

Decreased Plan

$$35,973 \text{ Jobs} \div 1.8 \text{ E/H} = 19,985 \div 19,410 \text{ DU's} = 1.03 \text{ Jobs/Housing Ratio}$$

E/H = Employed Resident Per Household

DU = Dwelling Unit

* Intermediate Plan alternative assumed 1,000 new dwellings in Vallco Park. The Jobs/Housing ratio would increase from 1.40 to 1.47 if the 1,000 units were deleted.

TABLE 3-6
Dwelling Unit Projections

Residential du/ac	Developed
High 20-35	
Medium High 10-20	3,210
Medium 5-10	2,450
Low 1-5	9,722
Very Low	222
Group Quarters	430
Single Home on Developable Land*	54
Totals	16,088

SHORT RANGE RESIDENTIAL GROWTH 1981 - 1986¹

	Decreased	Existing	Intermediate	Increased
	511	1,111	2,231	1,231
High 20-35				
Medium High 10-20	420	420	375	420
Medium 5-10	490	190	190	190
Low 1-5	286	286	286	286
Very Low	513	513	513	513
Totals	2,220	2,520	3,595	2,640

LONG RANGE RESIDENTIAL GROWTH 1986 - 1990¹

	Decreased	Existing	Intermediate	Increased
	0	0	0	0
High 20-35				
Medium High 10-20	139	139	124	139
Medium 5-10	164	64	64	64
Low 1-5	286	286	286	286
Very Low	513	513	513	513
Totals	1,102	1,002	987	1,002

1990 BUILD-OUT

	Decreased	Existing	Intermediate	Increased
	511	1,111	2,231	1,231
High 20-35				
Medium High 10-20	3,769	3,769	3,709	3,769
Medium 5-10	3,104	2,704	2,704	2,704
Low 1-5	10,294	10,294	10,294	10,294
Very Low	1,248	1,248	1,248	1,248
Group Quarters	430	430	430	430
Single Homes On Developable Land*	54	54	54	54
Totals	19,410	19,610	20,670	19,730

1. Development timing assumptions.

- a. 100% of new dwellings in High category will be constructed in 1981-1986 period.
- b. 75% of new dwellings in Medium High and Medium categories will be constructed in 1981-1986 period.
- c. 50% of new dwelling in Low and Very Low categories will be constructed in 1981-1986 period.

TABLE 3-7

EMPLOYMENT PROJECTIONS

EXISTING EMPLOYMENT

Jan. 1, 1982

Employment Sector	Outside Study Area	Inside Study Area	Total
Commercial	2,063	4,045	6,108
Office	1,894	1,878	3,772
Industrial	2,880	13,515	16,395
Other	2,633	-	2,633
Total Employment	9,470	19,438	28,908

NEW EMPLOYMENT GROWTH

1982-1986

Employment Sector	Outside the Study Area	Inside the Study Area			
		Decreased	Existing	Intermediate	Increased
Commercial	341	-27	690	798	2,025
Office	267	1,478	2,201	7,040	7,040
Industrial	1,011	3,995	5,335	7,342	8,000
Sub-Total	1,619	5,446	8,226	15,180	17,065
Total Employment		35,973	38,753	45,707	47,592

1986-1990

Employment Sector	Outside the Study Area	Inside the Study Area			
		Decreased	Existing	Intermediate	Increased
Commercial					765 2,790
Office					5,370 3,734
Industrial					3,151
Sub-Total	-	-	-	6,135	9,675
Total Employment		35,973	38,753	51,842	57,267

1990 BUILDOUT EMPLOYMENT

Employment Sector	General Plan Options			
	Decreased	Existing	Intermediate	Increased
Commercial	6,422	7,139	8,012	11,264
Office	5,517	6,240	16,449	14,813
Industrial	21,401	22,741	24,748	28,557
Other	2,633	2,633	2,633	2,633
Total Employment	35,973	38,753	51,842	57,267

Employment projections are based on the following assumptions:

1. Commercial employment is based on two employees/1,000 sq. ft. and a market absorption rate of 100,000 sq. ft./year. The increased plan is based on uniform commercial development of 253,155 sq. ft./year.
2. Office employment is based on 4.4 employees/1,000 sq. ft. and a market absorption rate of 400,000 sq. ft./year.
3. Industrial employment is based on four employees/1,000 sq. ft. and a market absorption rate of 500,000 sq. ft./year.
4. Employees in "other" employment sector include, 1,933 school employees and 700 Kaiser Permanente employees.
5. Hotel employees are included in the 1986-1990 commercial employment generated by the Intermediate and Increased Plan. Projections are based on .90 employees/room and construction of an 850 room hotel.

Land Availability

As evidenced by Table 3-6, there is very little difference in the 1990 residential build-out totals among the four alternative land use plans. The main reasons for the uniformity is the lack of residentially designated land in the Core Area and the infeasibility of significantly raising dwelling unit densities for properties in and out of the Core Study Area.

Figure 3-2 maps vacant land designated for future residential development. There are approximately 1,050 vacant acres of which approximately 768 (73%) are designated for very low residential development. Only 128 acres are available for future medium 5-10, medium/high 10-20, and high 20-35 units per acre density development. The greatest potential for increased housing opportunities lies in 20-35 DU/acre, the medium high category which involves the Town Center and Mariani Packing Plant site. Both sites, which total approximately 45 acres, (assume that only 25 acres of 50 acre Town Center site will be allocated to housing) are of sufficient size to accommodate a 25-35 unit development without overbearing an adjoining lower intensity residential, commercial office and/or research and development industrial site.

The possibilities of increasing the supply of housing is described in the Housing Mitigation section located on Page 3-14.

Affordability

Table 3-8 projects 1990 employment data for the four land use options. The income data by employee classification is expressed in 1982 dollars. The data is also based upon an assumption that the mix of employees in the clerical, professional, administrative and retail categories will remain constant for the new increment of development into 1990. In reality, high housing prices and other market disincentives will probably continue the trend for the

ENTIAL RESIDEN



LEGEND

COMMITTED NEW GROWTH
(D.U./Gr. Ac.)

- VERY LOW
- LOW: 1 - 5
- MEDIUM: 5 - 10
- MEDIUM HIGH: 10 - 20
- HIGH: 20 - 35

FIGURE 3-2
3-12

TABLE 3-8

Distribution of Employees by Income

Decreased Plan

<u>Annual Income</u>	<u>Clerical</u>	<u>Professional</u>	<u>Administrative</u>	<u>Retail</u>	<u>Total</u>
<u>Under 10,000</u>	1,086			5,138	6,224
<u>10,000 - 19,999</u>	4,948			963	5,911
<u>20,000 - 39,999</u>		10,488	7,626	321	18,435
<u>40,000 and above</u>		3,496	1,907		5,403
Total	6,034	13,984	9,533	6,422	35,973

Distribution of Employees by Income

Existing Plan

<u>Annual Income</u>	<u>Clerical</u>	<u>Professional</u>	<u>Administrative</u>	<u>Retail</u>	<u>Total</u>
<u>Under 10,000</u>	1,168			5,711	6,879
<u>10,000 - 19,999</u>	5,324			1,071	6,395
<u>20,000 - 39,999</u>		11,140	8,215	357	19,712
<u>40,000 and above</u>		3,713	2,054		5,767
Total	6,492	14,853	10,269	7,139	38,753

Distribution of Employees by Income

Intermediate Plan

<u>Annual Income</u>	<u>Clerical</u>	<u>Professional</u>	<u>Administrative</u>	<u>Retail</u>	<u>Total</u>
<u>Under 10,000</u>	1,785			6,410	8,195
<u>10,000 - 19,999</u>	8,132			1,202	9,334
<u>20,000 - 39,999</u>		14,374	11,798	400	26,572
<u>40,000 and above</u>		4,791	2,950		7,741
Total	9,917	19,165	14,748	8,012	51,842

Distribution of Employees by Income

Increased Plan

<u>Annual Income</u>	<u>Clerical</u>	<u>Professional</u>	<u>Administrative</u>	<u>Retail</u>	<u>Total</u>
<u>Under 10,000</u>	1,820			9,011	10,831
<u>10,000 - 19,999</u>	8,291			1,690	9,981
<u>20,000 - 39,999</u>		15,312	12,381	563	28,256
<u>40,000 and above</u>		5,104	3,095		8,199
Total	10,111	20,416	15,476	11,264	57,267

manufacturing function of existing and future firms to locate out of Santa Clara County. The administrative and research and development function will remain and expand. If that trend continues, the income spread will be tilted to the upper income level.

It is difficult to project future monthly housing costs. The appreciation rate for housing has leveled off from the 10-12% annual rate experienced during the late 1970's, however, there is no indication that the 15-16% mortgage rates will adjust down to the lower levels. In short, it is difficult to project the affordability of housing relative to future employees generated by the land use options.

A comparison of Tables 3-4 and 3-8 only has meaning in terms of relating one growth option to another.

Housing Allocation Model

The ABAG Housing Allocation Model is not sensitive to the changes in employment growth; therefore, the 1,786 housing need number and the spread of needed units by income type will remain constant or increase slightly if the Increased Plan or Intermediate Plan (or some derivative thereof) is adopted. In all likelihood, the 1,786 "need" number will remain operative until the Cupertino General Plan is amended following the mandated three year review period for housing elements, which in Cupertino's case, would occur in 1985.

Conclusions and Mitigation Measures

The evaluation of housing implications associated with the four growth alternatives indicates that the City presently maintains a fairly reasonable jobs/housing balance that could theoretically be improved if the Existing or Decreased Plan were implemented by 1990. Conversely, the Intermediate and Increased Plans would dramatically increase the employment levels which would exacerbate the regional

jobs/housing balance. For example, if the existing General Plan build-out employment number is used as an index or base, the implementation of an "Intermediate" Plan would increase the employment growth by approximately 34% and the "Increased" Plan would increase by 48%. Although, the jobs/housing balance analysis is based upon assumptions that may change and, perhaps more importantly, the analysis should ideally be applied on a regional basis, a local application of the ratio does have a degree of validity when used as a crude index in determining compliance with newly enacted Government Code Section 65913.1 requiring cities to designate and zone sufficient land for residential use in consort with zoning for non-residential use. The Government Code section does not precisely identify the degree to which the City should zone land residentially, commensurate with non-residential land, other than to state that the City must zone or designate land to meet the housing needs as identified in the Housing Element. Quite literally, the Cupertino's housing needs are identified by the Regional Allocation Model which specifies a need to develop 1,786 homes over a five year period with various income ranges. Although the City is not literally required to balance the theoretical demand for housing against housing supply for all income levels, the City has traditionally taken a position that a reasonable attempt should be employed to meet national and State housing goals to provide housing for all economic segments of the community. In fact, one of the cornerstones of the earliest General Plan was to create a balanced community fiscally and in terms of creating a wide range of employment and housing opportunities.

In order to meet the stated housing goals and objectives, a number of key policies should be considered for each of the General Plan options. The policies pertain to means to ensure that there is an adequate supply of new housing and that certain proportion of the new housing is affordable to all

economic segments of the community, particularly, those employees which are attracted to the City's employment base. Two of the key policies, Below Market Rate Housing Program and the Condominium Conversion policies, were specifically singled out by the City Council and Planning Commission for further review in conjunction with the subject General Plan Amendment.

BMR Program

The City of Cupertino's Below Market Rate Housing Program is an inclusionary zoning program requiring developers of all housing projects consisting of ten or more units at a density of six units or greater per acre to sell 10% of the total number of units at a price affordable by moderate income families. The BMR policy was adopted on January 2, 1979 in conjunction with a revised Housing Element Amendment. The BMR manual containing detailed procedural policies was adopted in April 1979. The 1978 Housing Element Amendment was initiated following a Land Use Element Amendment which doubled the permitted dwelling units within the Core Area of the community from approximately 900 to 1,900. One of the purposes of the Land Use Amendment was to increase the supply of housing, particularly higher density projects, to theoretically reduce the cost of housing. The intent of the BMR Program was to ensure that a segment of the increased supply of housing would be priced at a level affordable by moderate income families, particularly, families with employees attracted to the City's industrial, office and commercial employment base. Table 3-9 describes the current status of the BMR Program. The Table identifies the projects that have been approved, the number of BMR units that potentially will be transferred upon recordation of final maps, and the number of BMR units actually transferred.

TABLE 3-9
BMR Status - June 1, 1982

Project (File Number)	Dwelling Count		Status of BMR Units		
	Total Project	Req. BMR	Project Approved?	BMR Agreement Recorded?	BMR Units Transferred to Participants?
Gardenview	41	4	yes	yes	yes 4
Villa Calabazas	19	2	yes	yes	no
Vista Hills	14	1	yes	no	no
Park Plaza	79	4 1	yes	yes	yes 4
Woodspring	67	7	yes	no	no
Wildflower	13	1 2	yes	yes	no
Cupertino Village	96	10	yes	no	no
The Villas/Mariani	533	53	yes	no	no
Town Center	366	37	yes	no	no

1. The required number of BMR units was reduced from 8 to 4 to reflect a reduction of permitted density on the project site.
2. The dwelling unit selling price was increased because of the high development cost.

As indicated by Footnotes 1 and 2, the City Council has adjusted the BMR requirements on two occasions to recognize a change in circumstances involving a reduction of permitted density and a recognition of unique marketing problems. Both instances illustrate a point that the BMR Program must remain flexible to accommodate the change in economic conditions affecting the housing market. In recognition of a soft housing market, the City Council established a BMR Subcommittee consisting of City staff, a Councilperson, Planning Commissioner and developer representatives to review the BMR Program. The formal recommendations of the group were to modify the BMR Program to provide greater flexibility particularly with respect to the pricing of units. The BMR Program was reviewed by the Planning Commission in late Spring of 1982. Although a final concensus was

not reached, the Planning Commission determined that the BMR Program requires modifications to provide greater flexibility relative to the pricing of units and the development of alternative means to comply with the Program other than the direct transfer of units. Additionally, the BMR Program requires a greater degree of control to ensure that qualified participants are made more aware of the Program and that there is greater accountability in the selection of participants.

The residential developers who participated in the BMR Program suggested that if the Program is to continue, the City explore a means of extracting development fees or other obligations from office, commercial and industrial developers that generate housing demand.

Condominium Conversion Policy

The City currently has adopted General Plan policy and ordinances which control the conversion of apartments to airspace or townhouse ownership units. The intent of the policy and ordinance is to protect the City's supply of rental units from conversion to ownership when rentals are in short supply as measured by a vacancy rate and, secondly, to protect existing tenants' rights and the future buyers at such time when higher vacancy rates permit the conversion of apartments. The conversion control is an issue because it involves trade-offs between the ability of first-time buyers to enter the housing market at relatively lower costs versus the protection of apartments which have relatively lower housing costs.

Table 3-10 describes previous and current apartment vacancy rates within the Cupertino's

TABLE 3-10

VACANCY RATES IN APARTMENT HOUSING Cupertino Market Area 1976-1982

Survey Date	Total Dwelling Units	Number of Vacancies	Vacancy Rate
Oct. 1976	5,912	30	.5%
Sept.-Nov. 1978	5,621	21	.4%
May 1982	6,282	52	.8%
Average Vacancy Rate			.6%

The Cupertino market area approximately corresponds to the Cupertino Union School District boundaries and has varied slightly between surveys. Figures are based on telephone surveys of apartment owners or managers in complexes of over 14 units.

housing market. As indicated by the Table, the vacancy rate has consistently been below 1% from 1976 to 1982.

Corporate Rentals

Corporate rentals have a limited effect on the availability of apartment housing in Cupertino. Out of the 12 major apartment complexes surveyed, four had some units rented by corporations in the area. These were almost exclusively units in larger complexes with existing vacancies. Most managers, approximately 60% of those surveyed, did not rent to corporations and some indicated a strong preference for maintaining control over the type and length of tenancy in their apartments, rather than relinquish that discretion to a corporation.

On balance, the Condominium Conversion policy and ordinance should remain intact. The vacancy rate information still indicates that there is a large demand for apartments and the Questor Economic Analysis indicates that apartment housing costs are still affordable by moderate income households. Although the City's BMR Program would require 10% of all converted units to be sold at a price affordable by modern income families, there is no guarantee that the other 90% would be priced at a level affordable by present tenants and subsequent households that could afford typical apartment rents.

In summation, retention of the Condominium Conversion General Plan Policy and Ordinance would:

1. Ensure that moderate and low moderate income families have access to affordable housing.
2. Ensure that a diversity of housing types is maintained to meet the needs of households who seek rental housing regardless of income considerations.

Mitigation Measures

The analysis of the four build-out growth options illustrates the need to continue to implement policies designed to maintain an adequate supply of

housing to meet the needs of a reasonably broad level of incomes in order to maintain the City's goal of a balanced community. The following policies are recommended to achieve that end.

Policies Common to all Four Land Use Options

Policy 3-1

Density levels above those designated in the General Plan may be exceeded on projects which are found to satisfy a social goal of the community. The increase in density is contingent upon a finding that the project will not overburden public services, utilities, the road system and will be in harmony with adjacent land uses.

Policy 3-2

Developers are encouraged to follow innovative design concepts which integrate residential and non-residential uses within a single project.

Policy 3-3

The City shall foster a conducive environment for attracting low and moderate priced housing programs financed by other levels of government. All such developments will meet the City's design and service criteria.

Policy 3-4

The City shall continue to make Housing and Community Development (HCD) funds available to developers to help defray costs inherent in meeting or exceeding the requirements for supplying below market rate housing.

Policy 3-5

HCD funds or in-lieu housing fees shall be made available for site acquisition for low and moderate priced housing. Parcels purchased with HCD or in-lieu housing fee funds can be made available to private developers or a non-profit housing corporation, capable of constructing low and moderate priced housing.

Policy 3-6

The City will place the issue of affordable housing on the ballot to obtain Article 34 referendum authority should this be necessary to provide for affordable housing.

Policy 3-7

Applications that provide very low, low and moderate income housing will be given priority processing to reduce the costs associated with time delays.

Policy 3-8

The City will participate in available County, State and Federal programs that promote or provide housing.

Policy 3-9

Conversion of rental forms of multiple family housing to condominiums will not be permitted if the proposal significantly diminishes the present number of rental units within the City of Cupertino or substantially reduces the ratio of ownership-to-rental units in effect at the time of the requested conversion. In no case shall a rental unit be converted to single-family ownership housing when the rental vacancy rate within the Cupertino housing market area is less than 5% at the time of application and has averaged 5% over the past six months. The vacancy rate will be determined by surveys conducted by the City of Cupertino's Planning Department.

Policy 3-10

Prior to approving conversion, the City shall ensure that a significant portion of the converted units remain a part of the low and moderate income housing stock.

Policy 3-11

Prior to approving conversion of rental housing to condominiums, the City shall ensure that the project has been upgraded to eliminate any health and safety hazards, meet current development standards, and reasonably demonstrate that comparable replacement rental housing exists within the Cupertino area to accommodate the displaced residents.

Policy 3-12

The City will work with the County, private developers and non-profit housing corporations to identify sites for very low, low and moderate income housing.

Policy 3-13

The City will review all vacant and uncommitted commercial and industrial lands every three years to determine their potential for rezoning to residential.

Policy 3-14

The City of Cupertino shall require a developer of a residential project constructing ten dwellings or more at a density of six units per acre or greater to participate in an Inclusionary Zoning Program called Below Market Rate Housing.

The BMR Program is a key mechanism to provide moderate priced housing.

The developer shall fulfill his or her obligation through a number of ways including, but not limited to, the following:

1. Providing BMR units for sale at a below market rate with the price determined through negotiations. The objective is to require 10% of total project mix to be priced below market, however, the actual obligation will be negotiated based upon affordability of units for low/moderate income households or the developer's cost (less land), whichever is greater.
2. Providing BMR units through an Equity Sharing Program.
3. Providing BMR units under HUD's Section 8 Rental Assistance Program or some similar contract program acceptable to the City of Cupertino and the Housing Authority of the County of Santa Clara .

The method of fulfilling the obligation will be negotiated with the Below Market Rate Subcommittee with right of appeal before the City Council. The Below Market Rate Subcommittee shall also review and select program participants.

Policy to be Applied to the Intermediate and Increased Plan

Policy 3-15

The City shall develop an employment and housing opportunities policy to apply in areas where commercial, industrial and office densities are increased. Labor intensive or large scale commercial, industrial developments, which exceed standard employee/acre values, shall be assessed for their impact on the community's housing supply. The standard employee/acre value for each land use type is as follows: 60 employees/acre for industrial uses, 20 employees /acre for commercial uses, and 70 employees/acre for office uses. The developer shall be required to provide one of the following measures to mitigate the impacts of density increases:

- . Housing units at the site - 10% of the units should be affordable to low and moderate income households as owner or rental units; or
- . Additional units at another site with 10% of the units affordable to low and moderate income households; or
- . An in-lieu fee to partially finance additional housing units; or
- . The City or developer may propose alternative methods to meet the policy objectives.

The first priority of the policy is the actual construction of housing units on the site.

4 TRANSPORTATION

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INTRODUCTION/PURPOSE

The Transportation System consists of freeways, expressways, arterial streets, collector streets and local streets along with mass transportation opportunities (car pooling, van pooling, buses, etc.) and other forms of transportation including bikeways, pedestrian paths, trails and pathways.

If the system becomes severely clogged, areas of the community suffer a loss in livability or "quality of life" brought on by congestion, excessive delays, noise, air pollution, etc. The ease of movement within the transportation system is directly related to three factors:

- A. The type and level of transportation improvements available at the local and County level.
- B. The amount of development and growth which the system serves. That is, is the existing transportation system adequate to accommodate existing development and can it be modified to accommodate future growth?
- C. Feasibility of alternative forms of transportation (car pooling, van pooling, jitneys, buses, mass transit, etc.) toward addressing future transportation needs.

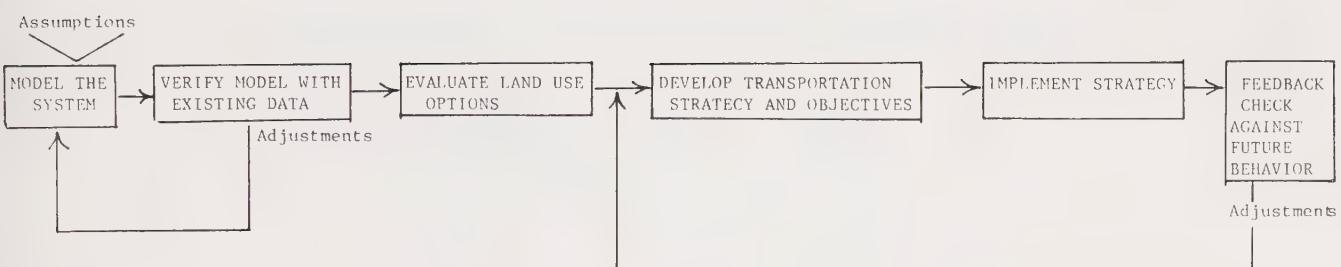
The suburban areas of the Santa Clara Valley have been and are still committed to personalized vehicular transportation as a primary mode of circulation. Perhaps, with the sprinkling of higher intensity development which is occurring along the major freeway routes, mass transportation may be viable and desirable in the future. Mass transportation offers its greatest promise for serving future growth in the area of Vallco Park where a major bus transfer station is planned and because of Vallco's proximity to Highway 280. However, for the near future, the City is not relying upon a high level of transit ridership to fulfill a significant portion of future demand.

The purpose of the Transportation Element of the General Plan Background Report/EIR is to review the transportation system and its ability to accommodate projected growth based on the four General Plan options. With the margin of error inherent in traffic predicting, it is over-optimistic to attempt a high level of precision in this evaluation. Therefore, the following discussion first reviews the options in generalized terms and then attempts to assess the more precise intersection/roadway capacity and level of service which can be anticipated under the General Plan options.

The following chart illustrates the thought process used to verify the City's traffic model (the model is discussed below) and develop a strategy to approach transportation issues:

Figure 4-1

TRANSPORTATION PLANNING (FLOWCHART)



TRANSPORTATION GOALS AND OBJECTIVES

The community's transportation goals and objectives have been articulated in various forms over the years which came together in the 1979 General Plan Circulation Element. Additionally, the Goals Committee established a set of goals and objectives relating to transportation. Also, the City Council in their review of the scope of work for the General Plan Amendment established some basic concepts relating to the review of level of service impacts upon existing intersections. These transportation goals and objectives are summarized below:

CIRCULATION GOALS AND POLICIES

1. Balanced Circulation System.
2. Integrate with Regional System.
3. Do not over-design the System.
4. Ensure fair-share of County Bus Transit Program.
5. Increase street-carrying efficiency.
6. Provide a flexible system to accommodate variety of forms of transportation.
7. Construct four-lane roadway in State Route 85 Corridor through City.
8. Cost Effective System which is equitably financed (new development pay for facilities to accomodate demand).
9. Design level of "D" during peak traffic hours. Council asked that existing intersections above "D" level be retained, if possible.
10. Preserve integrity of residential neighborhoods.
11. Decrease reliance on personal automobile.

THE EXISTING TRANSPORTATION SETTING

Traffic has been likened to water flow to illustrate the concept that drivers will seek the path of least resistance and, in fact, raise the system to its own equilibrium. Therefore, more capacity does not necessarily result in a commensurate amount of benefit to community residents as the City may just attract traffic from neighboring cities' overburdened roadways. The peak hour is utilized as a guidepost to judge traffic impacts because it represents the worse case traffic situation. Also, when improvements are geared to the peak hour, the street system can be relatively assured of free-flow during off peak periods. The present condition of Cupertino's traffic circulation network was detailed in a report and presentation prepared by the Public Works Department to the City Council on March 16, 1982. The report was based upon the following regional transportation plans.

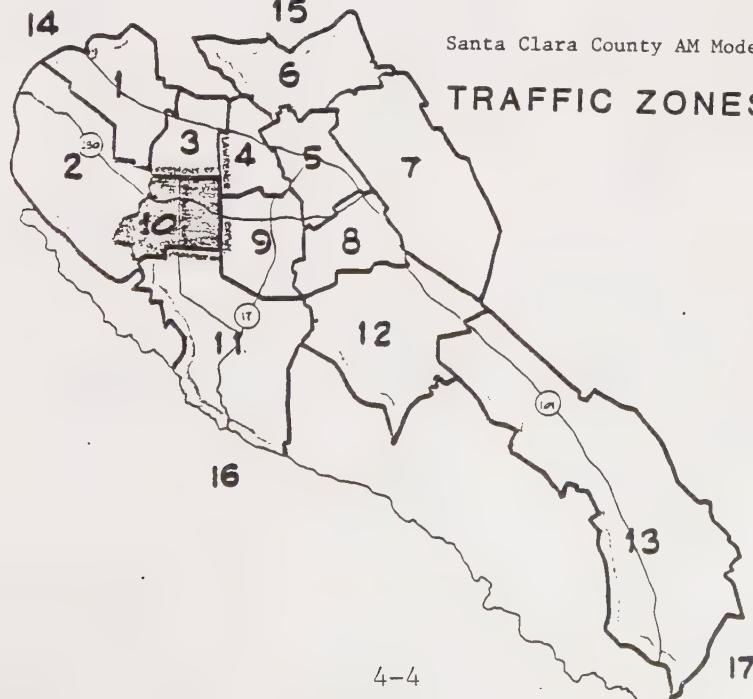
- a. The ABAG/MTC Corridor Study which generated data for the entire nine County Bay Area region.
- b. Santa Clara County AM Peak Model based upon build-out of existing General Plans.

Taking the above plans as the basis, the City then developed its own model of traffic flow within Cupertino Traffic Zone No. 10 utilized in the Santa Clara County Model.

FIGURE 4-2

Santa Clara County AM Model

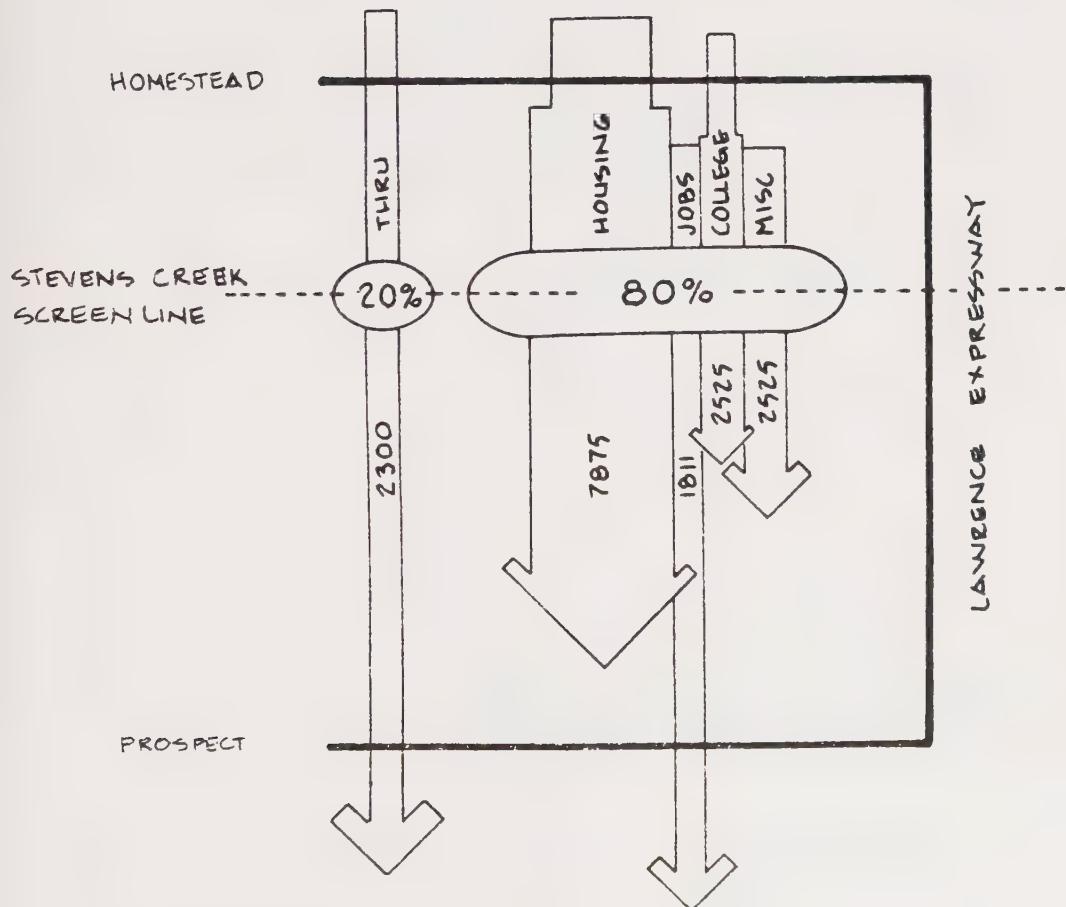
TRAFFIC ZONES



The City's traffic model was based upon a simple counting of total through trips during peak traffic hours through a specified screen line and then cross-checking the volume counts with those predicted by the County AM Peak Model. The City's model concluded that roughly 20% of the peak traffic represents through commuters and that the remainder of the traffic activity during the peak hour is attraction to or from existing housing, jobs, commercial activity and De Anza College. Figure 4-3 illustrates this finding.

FIGURE 4-3

STEVENS CREEK BLVD. SCREENLINE
PEAK FLOW DIRECTION COMPOSITION
1980 EXISTING

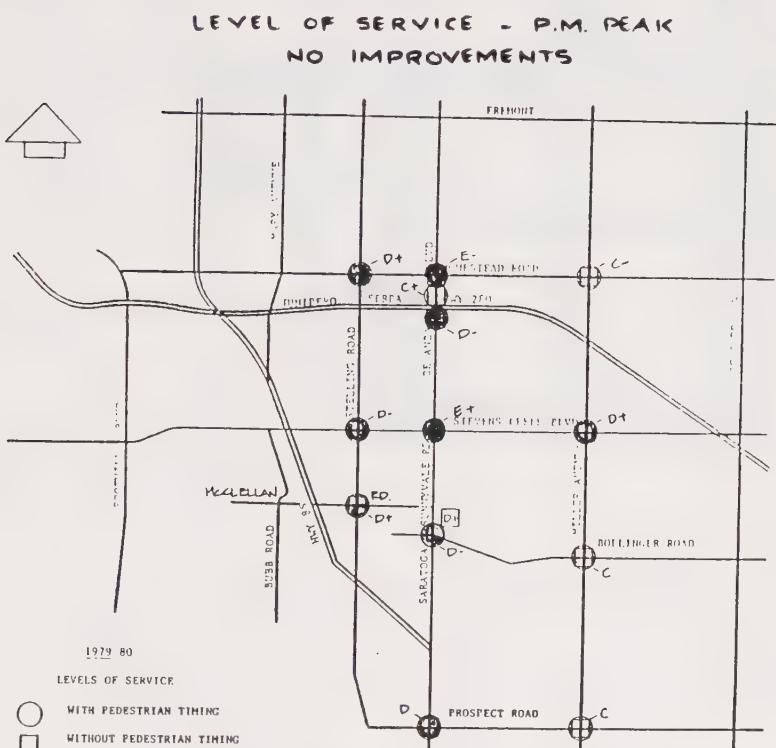


The City then verified its findings by comparing them with the predictions and findings of numerous professional traffic engineering reports, license plate surveys conducted by neighborhood groups, employee-residence correlation from local industrial firms, and actual counts conducted throughout the Cupertino street system. Cupertino's methodology was then validated by an independent report commissioned by the Goals Committee and conducted by CH₂M Hill, an Engineering Consulting firm.

The 1980 level of service indicators for key intersections and 1980 ADT volumes are described in Figures 4-4 and 4-5

FIGURE 4-4

GENERAL PLAN ALTERNATIVE - 1980 EXISTING



LEVEL OF SERVICE - Qualitative measure that represents the collective factors of speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs provided by a highway facility under a particular volume condition.

- A Good, no congestion
- B Some congestion
- C Congestion
- D High congestion
- E Near breakdown
- F Breakdown

FIGURE 4-5

1980 ADT VOLUMES

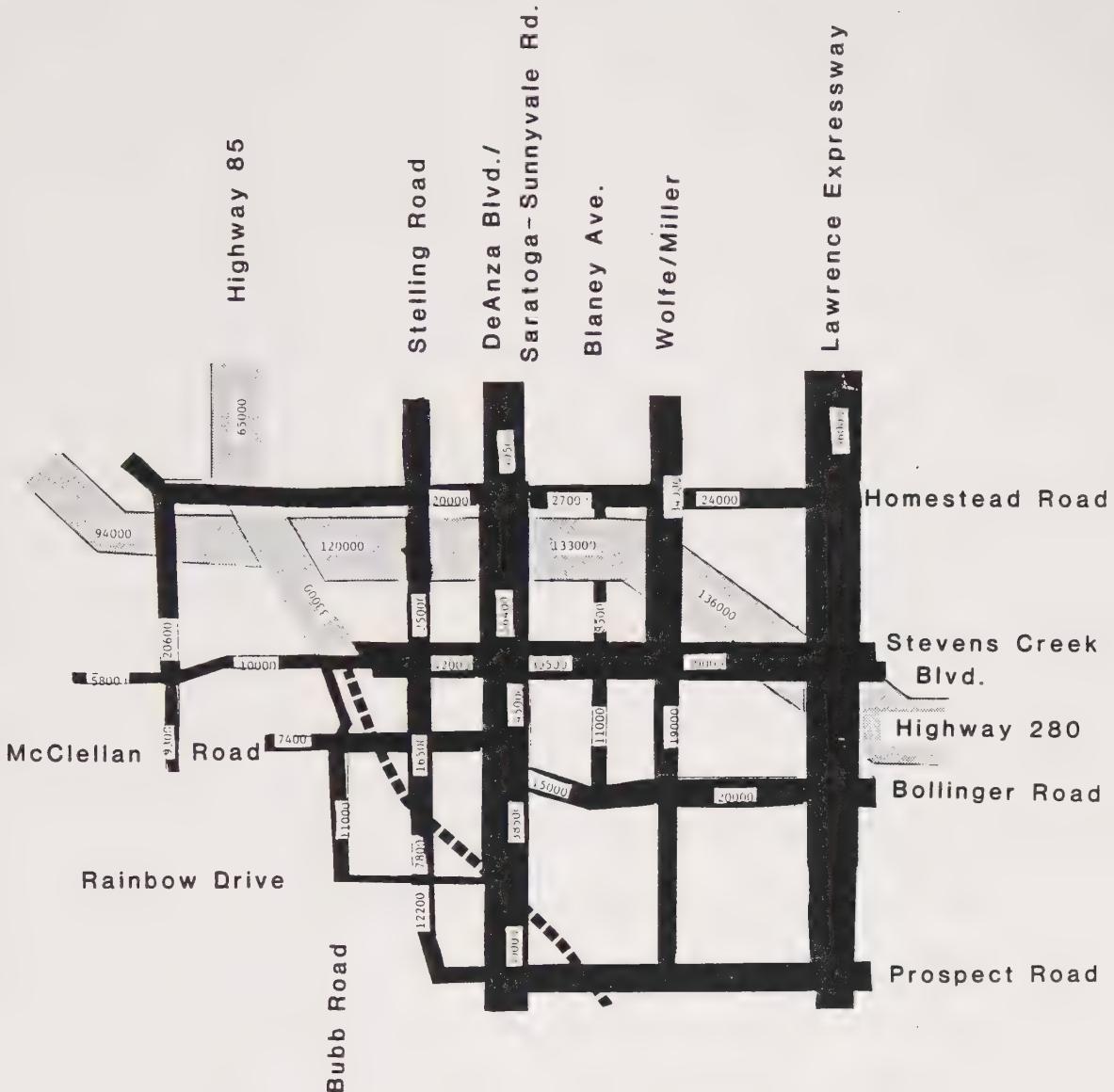


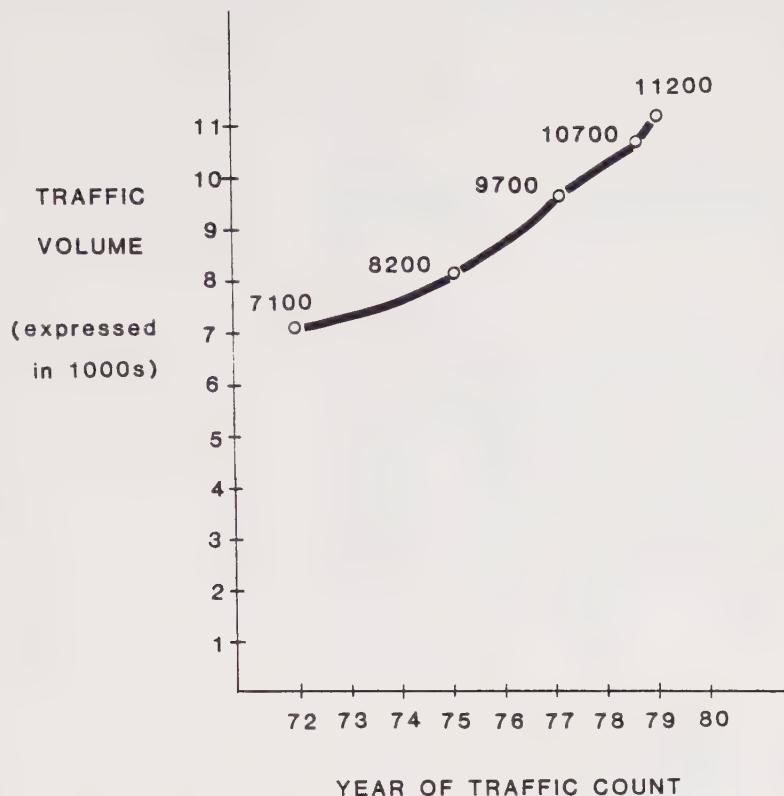
Figure 4-4 illustrates that 1980 PM peak traffic flows at several intersections were approaching an F level of service while the status of most other intersections was D. An important finding of this review is that a large part of the traffic found on Cupertino streets during peak traffic hours is generated by housing, jobs, educational facilities, etc. located within Zone 10. A majority of Zone 10 is within the City limits of the City of Cupertino with other major portions located in San Jose and north of Homestead Rod within Sunnyvale. Since these areas outside Cupertino are largely "built-out", future volumes depend to a great extent on Cupertino's land use decisions.

DEFINING THE PRIMARY TRANSPORTATION STRATEGY

The street system in Cupertino reflects the historical pattern of vehicular movements in and through the City and decisions from the State of California regarding interstate freeway development and Santa Clara County decisions affecting County expressways. Throughout the County, road building at the State and local level has lagged behind demand. In recent years, road construction in the County has focused on areas of greatest need as perceived by the affected City resulting in a patchwork of street improvements. This lack of Countywide coordination and lagging of improvements to demand has resulted in motorist defined commute corridors often running through neighborhoods as commuters weave the most efficient path from their work place to their home. Ironically, the 85 corridor improvements thought to benefit commute movement may do little good for the local community while attracting traffic and the commensurate pollution and noise through the City. On the other hand, the lack of improvements in the 85 right-of-way and the accompanying congestion on Highway 280 has left a local collector, Stelling Road, to accommodate a relatively significant amount of through traffic movement. Similarly, the lack of a local street extension (Bollinger Road through to Stelling Road) has left a two-lane McClellan Road heavily impacted by east/west through traffic movement, seeking access to and from Highway 85 and De Anza College. In another example (Blaney Avenue) the City has observed healthy increases in the volumes of traffic from the years 1972 through 1979 even though the one-way peak hour flows have remained relatively constant. The following Figure 4-6 illustrates the Blaney Avenue volume increases.

BLANEY AVE. TRAFFIC VOLUMES *

1972-1979



* counts taken between Stevens Creek Blvd. and Suisun Dr.

The above graph points to the need to review how selected streets within Cupertino presently function and an evaluation of how they should function. The following chart Table 4-1 outlines definitions of how particular street types should function. Please note that only the minor collector streets and local streets are designated to restrict through traffic movement.

The perception of how the present street system is functioning utilizing the definitions under the hierarchy of streets can help to identify the obvious areas where streets are functioning out of their intended classification. Figure 4-7 illustrates the perceived existing function of streets as identified by the Planning Commission.

TABLE 4-1

STREET HIERARCHY

STREET CATEGORY	STREET FUNCTION	TYPICAL NUMBER OF LANES
FREEWAYS and EXPRESSWAYS	Inter State/Inter City	4 lanes or greater (No access to adjoining property)
	Highways carrying inter-city, inter-county, and inter-state traffic. Freeways and expressways do not provide direct access to abutting land.	
ARTERIAL	Inter City Streets and highways serving major metropolitan activity centers, the highest traffic volume corridors, the longest trip desires, and a high proportion of total urban area travel on a minimum of mileage. Service to abutting land should be subordinate to the provision of travel service to major traffic movements. This system carries the major portion of trips entering and leaving an urban area, as well as the majority of through movements desiring to bypass the central city, and normally will carry important intra-urban as well as inter-city bus routes.	4 lanes or greater (Limited access to adjoining property)
MAJOR COLLECTOR	Inter City/Inter Neighborhood Streets and highways interconnecting with and augmenting arterial system and providing service to trips of moderate length at a somewhat lower level of travel mobility. The system places more emphasis on land access and distributes travel to geographic areas smaller than those identified with the higher system. It includes all arterials not classified as principal.	2 - 4 lanes (Direct and indirect access to adjoining property)
MINOR COLLECTOR	Inter City/Inter Neighborhood Streets penetrating neighborhoods, collecting traffic from local streets in the neighborhoods, and channeling it into the arterial systems. A minor amount of through traffic may be carried on collector streets, but the system primarily provides land access service and carries local traffic movements within residential neighborhoods, commercial, and industrial areas. It may also serve local bus routes.	2 - 4 lanes (Direct access to adjoining property)
LOCAL	Intra Neighborhood Streets not classified in a higher system, primarily providing direct access to abutting land and access to the higher systems. They offer the lowest level of mobility and usually carry no bus routes. Service to through traffic is deliberately discouraged. Local streets may function to "collect" traffic from the immediate neighborhood and provide access to the above-named street categories.	2 lanes (Direct access to adjoining property)

EXISTING FUNCTION OF STREETS-1982

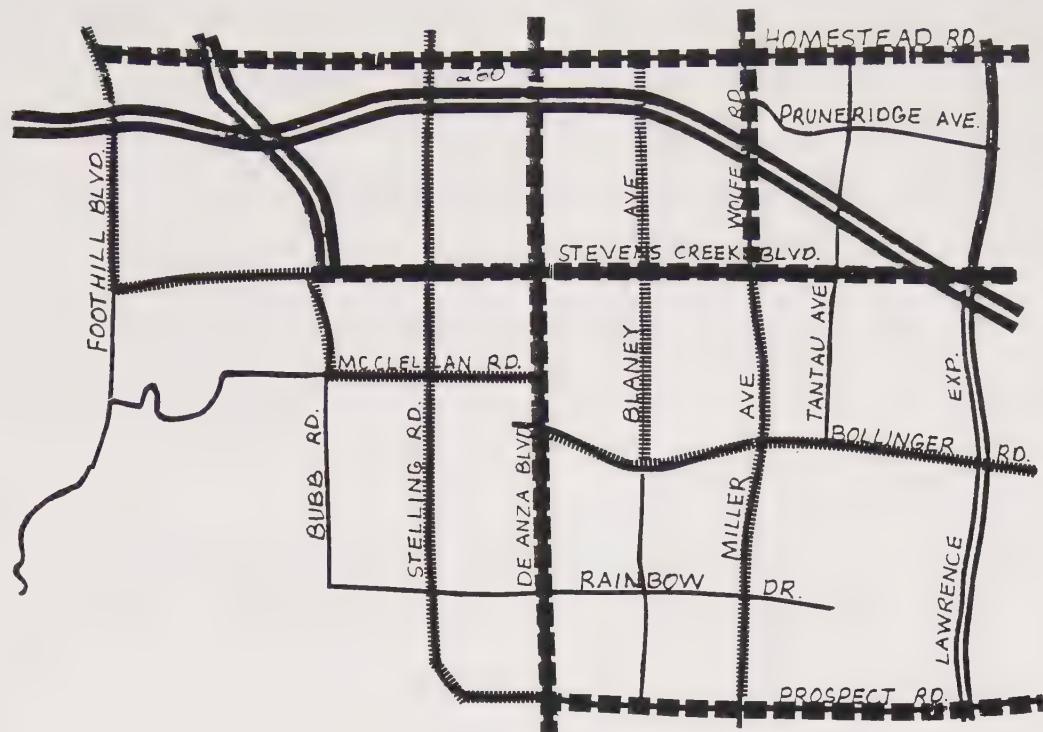


FIGURE 4-7.

LEGEND

—	FREEWAYS & EXPRESSWAYS
—	ARTERIALS
—	MAJOR COLLECTORS
—	MINOR COLLECTORS

Discrepancy between how streets are perceived to function and their physical characteristics help to identify those which are functioning outside of their classification or intended limits. For instance, Homestead Road does not have the restricted or limited access characteristic of an arterial street yet it appears to be functioning in that role. Also, McClellan Road, Stelling Road south of the 85 extension and Blaney Avenue are all perceived to be functioning as major collectors when their two lane characteristics and directly abutting residential homes have the physical characteristics associated with the minor collector street. These discrepancies between the physical characteristics and the present functioning of streets result in conflicts

from the steady stream of traffic upon the livability of the adjoining homes and surrounding neighborhood.

The final section of this transportation review deals with developing a transportation strategy which outlines alternative street designations and the improvement costs which may be elected to help alleviate some of these problem areas.

Transit

Transit facilities including buses and organized car and van pooling programs are not expected to significantly reduce congestion levels on Cupertino streets during peak travel times. Presently, bus ridership during the peak hours only accounts for 5% of all commute trips, and Santa Clara County projects only a 5% increase in peak hour commute ridership to 10% of commute trips by 1990.

There are currently no plans to construct fixed rail transit system serving the Cupertino area. The only fixed rail system in the planning stage in Santa Clara County is the Guadalupe Corridor Line running from South San Jose to northern Santa Clara. Cupertino's past planning efforts have located the higher activity commercial and employment centers near the major arterials and adjacent to Freeway 280. The placement of these higher intensity nodes is assumed to continue either in their present form of intensity or higher intensity. Their location will aid the development of fixed rail transit should that become a feasible alternative at some future date.

Even with the pessimistic projections on transit ridership it is still important to encourage alternative transportation opportunities. These alternative opportunities including buses, car and van pools, bicycles, possible future jitneys, provide alternatives for those unable to afford a personal vehicle (the elderly, handicapped and young who may be unable to drive). The alternatives are especially important in terms on increasing the mobility of the community and providing reasonable access to community facilities. Also, even though transit ridership may not be high it does hold some promise of relieving peak hour trips through the prioritization of express lines to selected businesses, priority bus and van pool lanes on the freeway and major arterials.

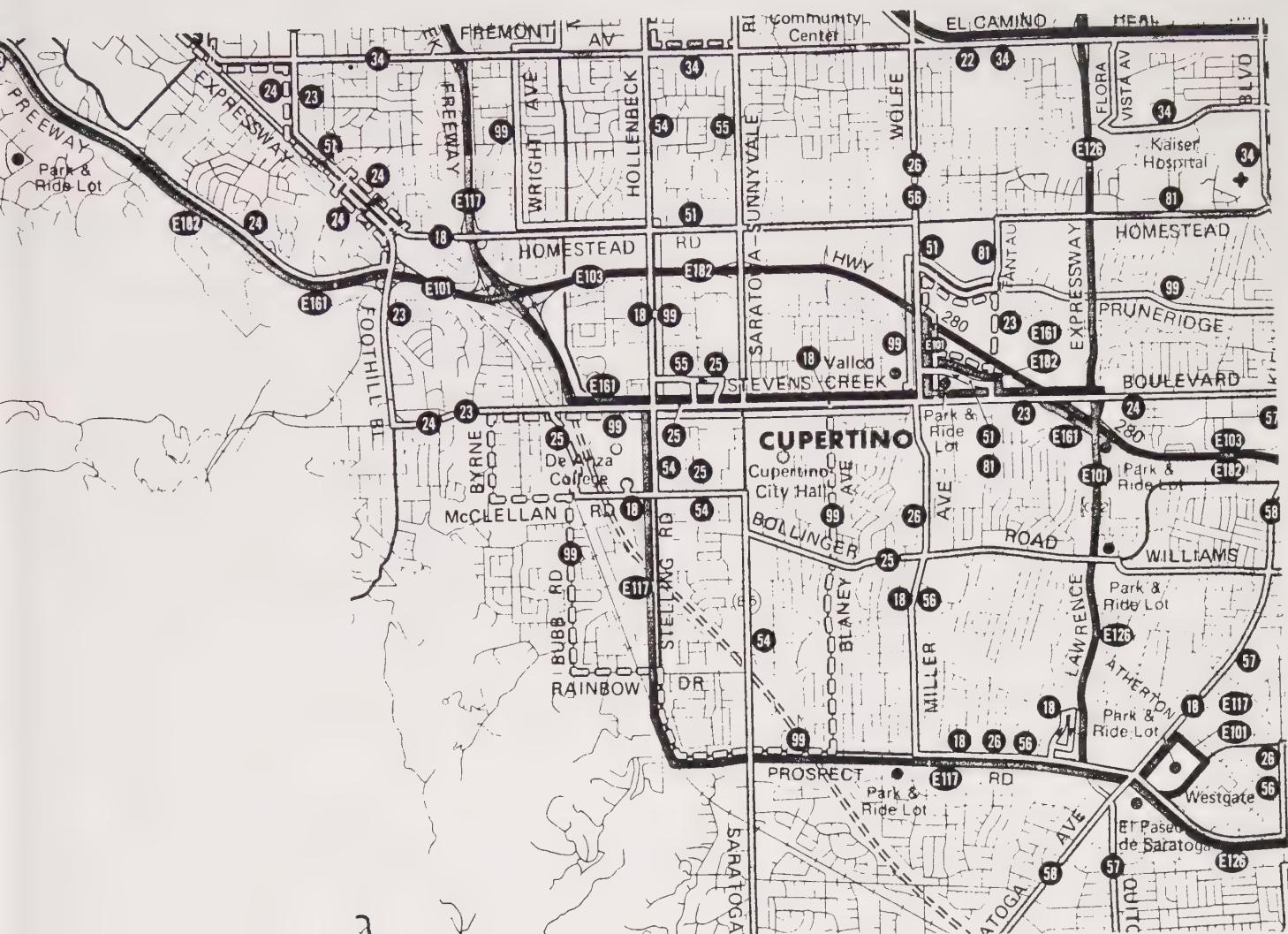
Regardless of the land use option selected, City policy should continue to encourage the transit district to focus on relieving peak hour traffic movement and encouraging bus routes along major arterials and collector routes.

Present Bus System

The following map illustrates the bus routes presently serving the Cupertino area.

FIGURE 4-8

BUS ROUTE SYSTEM



As the map illustrates, there presently is no continuous line along Saratoga/Sunnyvale Road even though this is a major north/south arterial through the community. Additionally, several of the lines traverse through residential areas which improves accessibility but does not enhance the peak hour commute on the bus transit system.

Para Transit

Car Pooling/Van Pooling

Commuter ride pooling has formed within the Bay Area in response to congestion and higher costs of commuting. Cupertino has planned

to take advantage of this interest by requiring industrial developers within the community to agree to participate in a car pool/van pooling program and provide vans for their employees. This requirement has been imposed upon roughly 30 developers within the North De Anza Boulevard, and Vallco Park industrial areas.

The condition of approval imposed on these developers has always clarified that it should only be required in the future when it can be shown to be feasible and desirable from the City's standpoint. Cupertino has also required Vallco Park as a condition of the approval for the Regional Shopping Center to contribute \$67,000 per year to a traffic mitigation fund. Presumably, this money could be utilized to establish such a car pool/van pooling program for the industrial areas of the community. Presently, private programs have been organized in some of the industrial firms and/or some firms have participated in the rides program.

Core Area Jitney

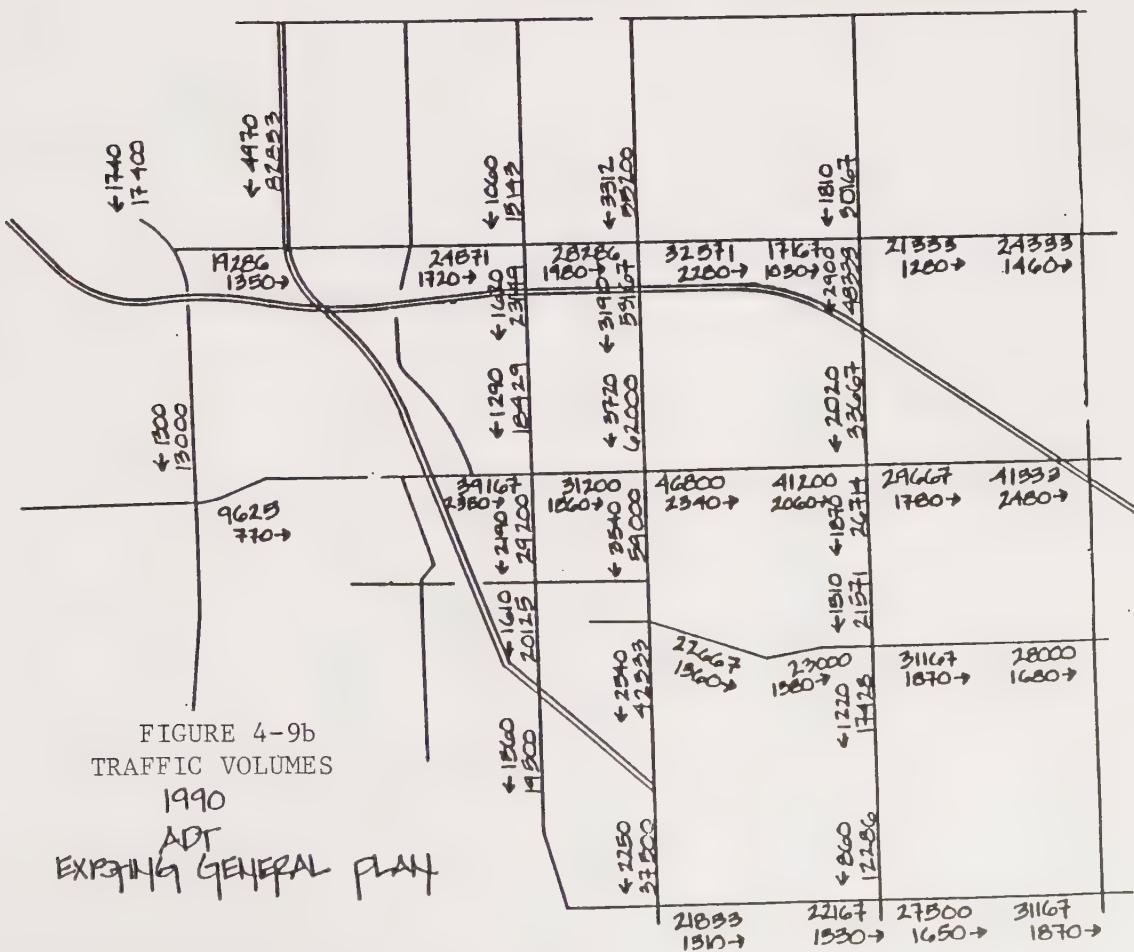
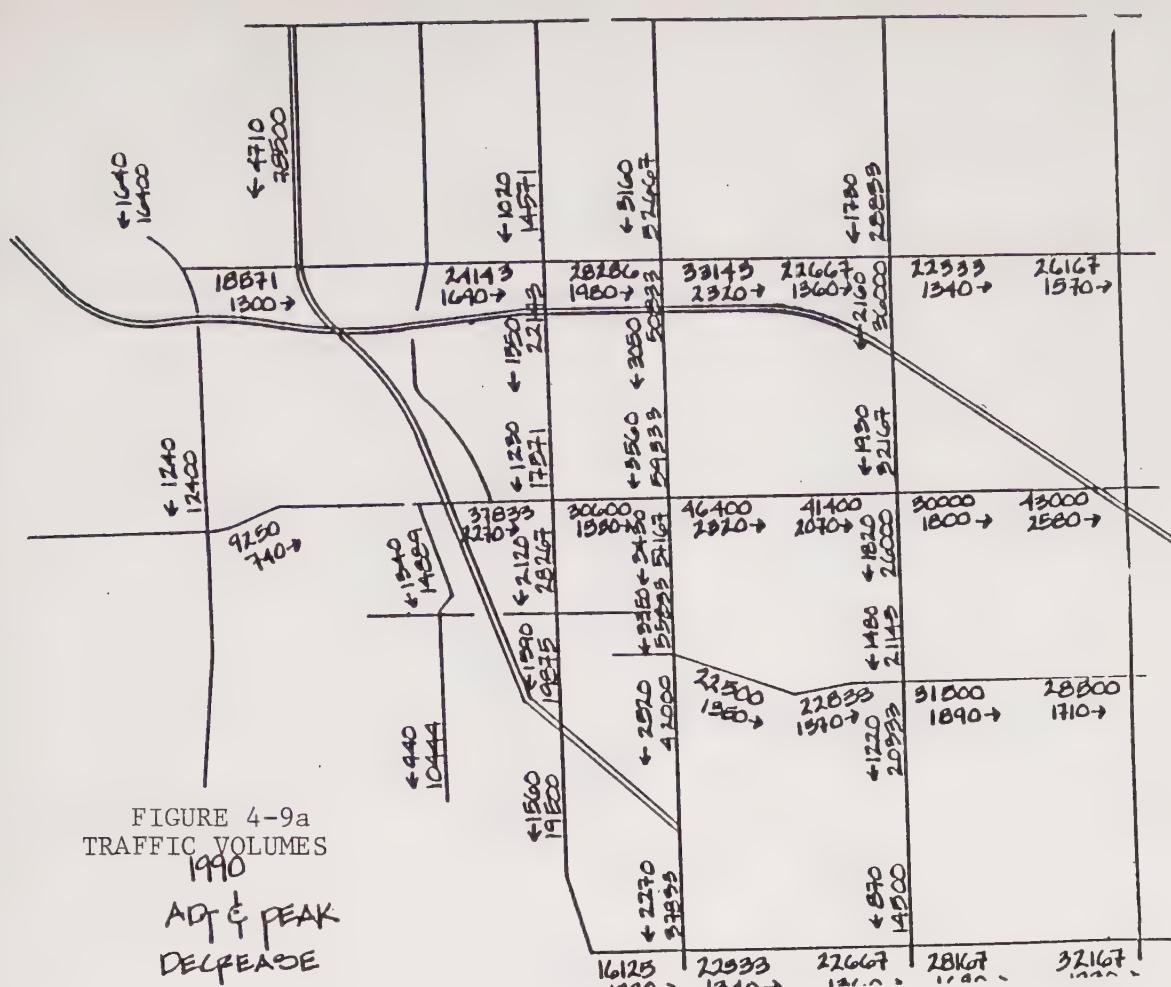
The Cupertino area seems to be impacted by a third peak traffic hour (the noon hour). At this time, thousands of industrial and commercial employees descend upon the street system to take short trips to nearby shopping facilities and/or dining establishments. To relieve this impact the City may want to consider a developer coordinated jitney service linking the major industrial areas of the community with the major commercial areas. One option may be to consider operating this program in conjunction with or in lieu of the car pool/van pool requirement which is now imposed on developers. Such a jitney service could be operated to complement the transfer station at Vallco Park. The vehicles to operate the jitney could come from the van pools which would otherwise be idle during the off-peak hours.

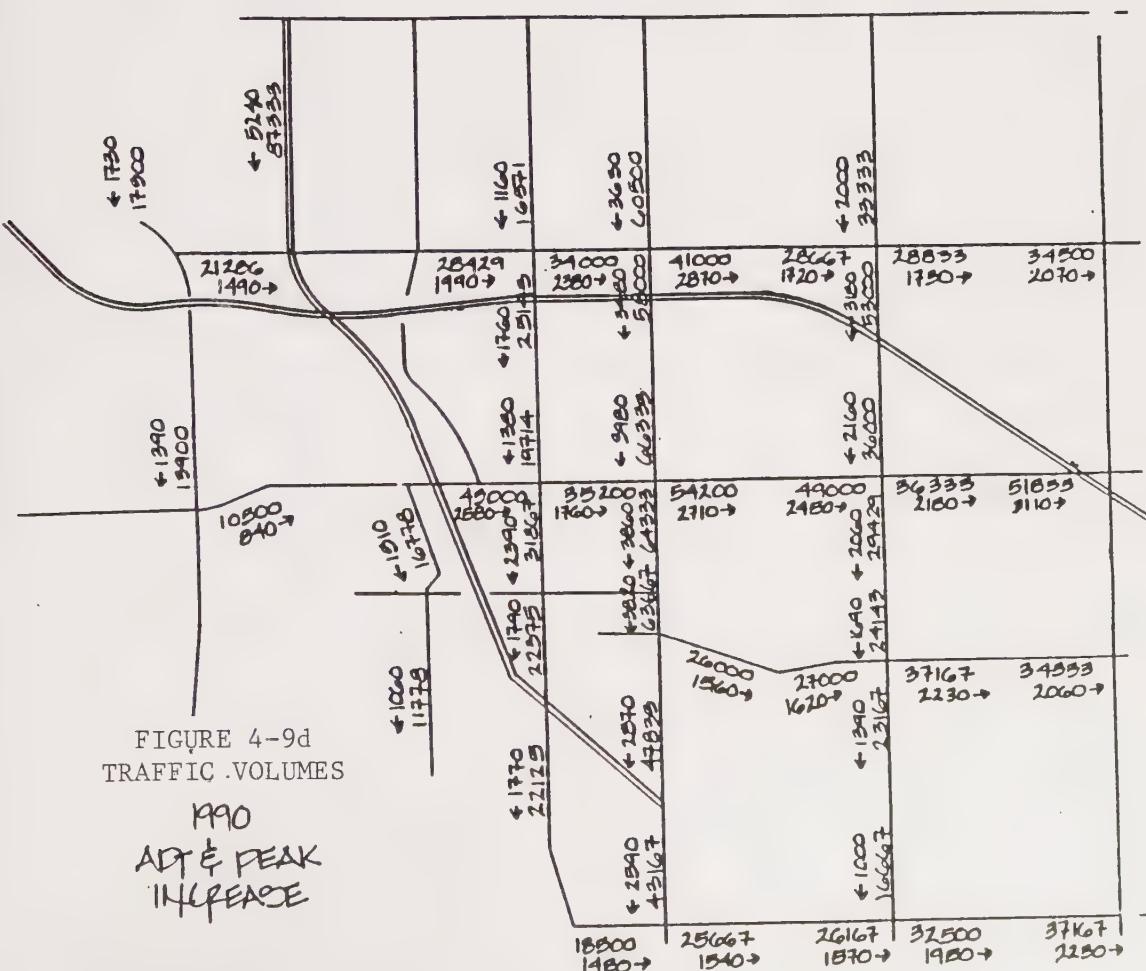
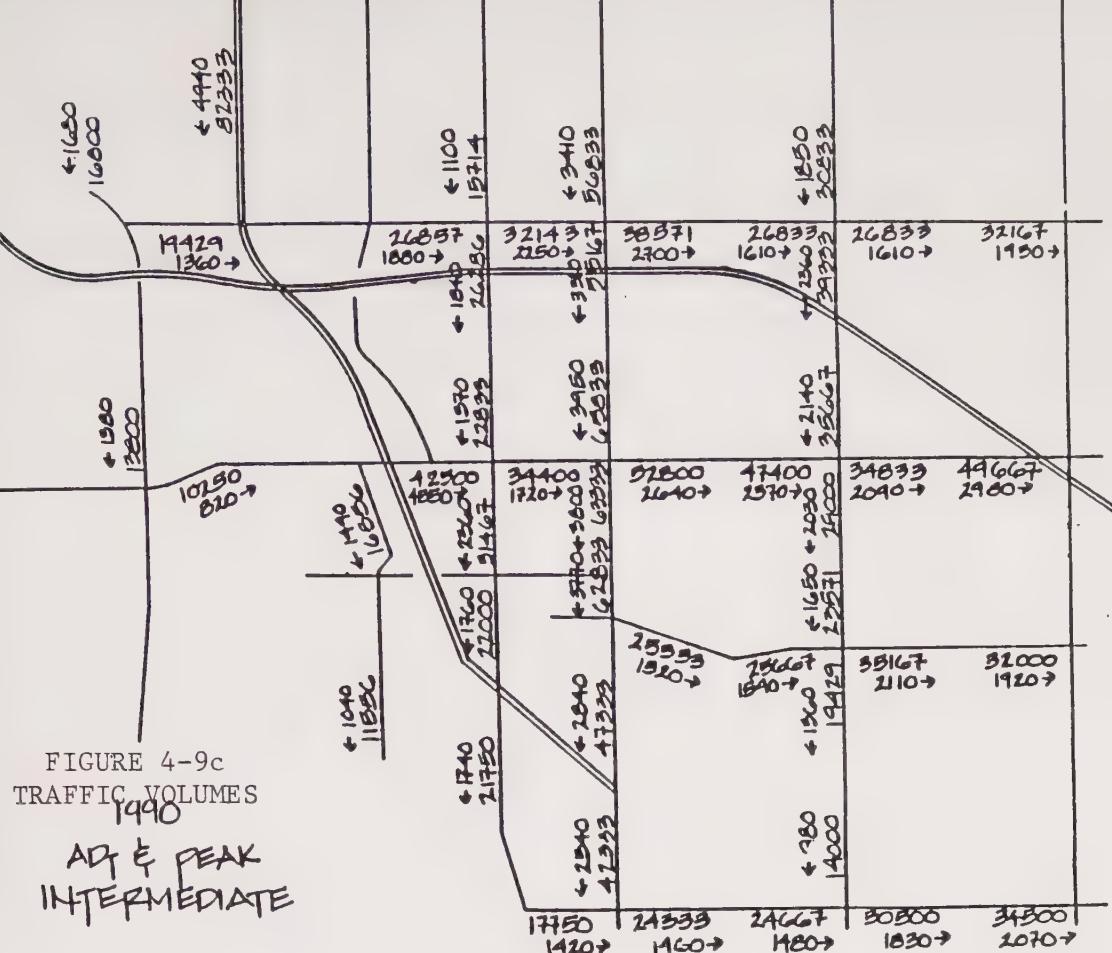
FUTURE TRANSPORTATION SETTING RESULTING FROM IMPLEMENTATION OF THE FOUR
LAND USE OPTIONS

The 1990 traffic setting for Cupertino has been developed for each land use alternative. The 1990 traffic volumes and level of service indicators for intersections are based upon the traffic model discussed earlier. The model contains an assumption that Highway 280 will be widened by two lanes (one lane in each direction as provided by the State of California Transportation Improvement Plan) and that the General Plans of the surrounding communities that were utilized in the ABAG/MTC and County Prediction Models will remain valid. If the above-mentioned assumptions, or for that matter, any other assumptions that were utilized to develop the models changes drastically, then the model utilized by Cupertino to predict future traffic conditions will also have to be modified and the General Plan changed accordingly.

Traffic Characteristics - Volumes and Level of Service

Figures 4-9 a, b, c, d, identify the future traffic volumes predicted for each of the four land use plans. The traffic model assigned traffic generated by new land use growth and new commute traffic growth to the major street network. Traffic was not assigned to local residential streets and Bubb Road and Blaney Avenue which function as collector streets. The implications on new traffic growth on local residential streets is discussed in a latter section.



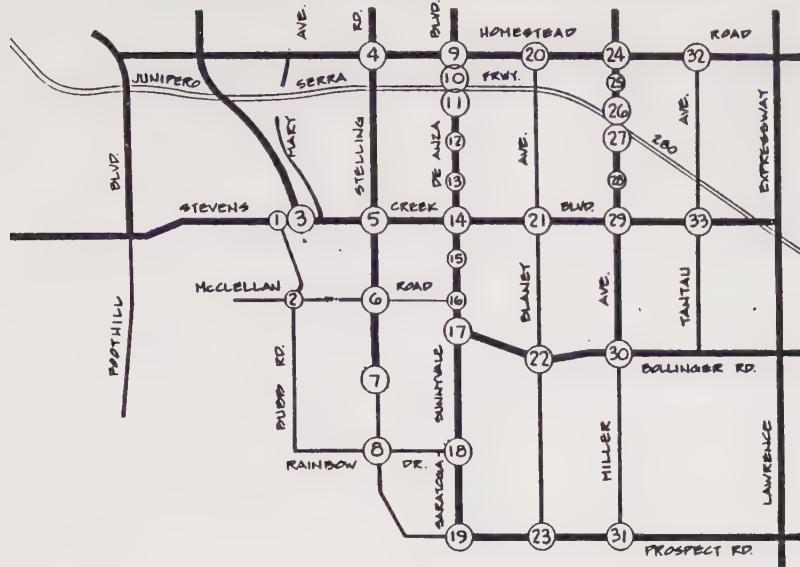


A Transportation Improvement Plan for each land use option is described on Figures 4-10 a, b, c, d. The figures provide a diagram map to identify key intersections and a chart which identifies existing and future intersections level of service, required improvement to attain Level of Service D and costs. The lower portion of the table for each plan identifies the improvements that would be necessary to ensure that the 1979-80 level of service is not worsened.

From a technical perspective, the existing road system can be improved to carry the traffic generated by the four development options and new through traffic by 1990. In evaluating the plans, however, the ability of the private development community and the public to absorb the transportation costs and the subjective aspects of traffic, particularly with respect to the effect of traffic on residential areas, must be considered. Section VI, which is the Implementation Section of the General Plan Background Report, analyzes various techniques for financing road and other capital costs associated with the plan options and discusses the timing of development related to matching traffic growth to road improvements. The next section of the Transportation Element discusses a transportation strategy to ensure that Level of Service D or better is maintained on the major surface street network and that residential areas which abut and are served by elements of the street system are protected from excessive through traffic. Prior to making a determination as to what is an excessive volume of traffic, the reader must have an understanding of how the street system presently functions and a general understanding of how traffic volumes affect the quality of life in residential neighborhoods.

FIGURE 4-10a

STREET IMPROVEMENT - DECREASED PLAN

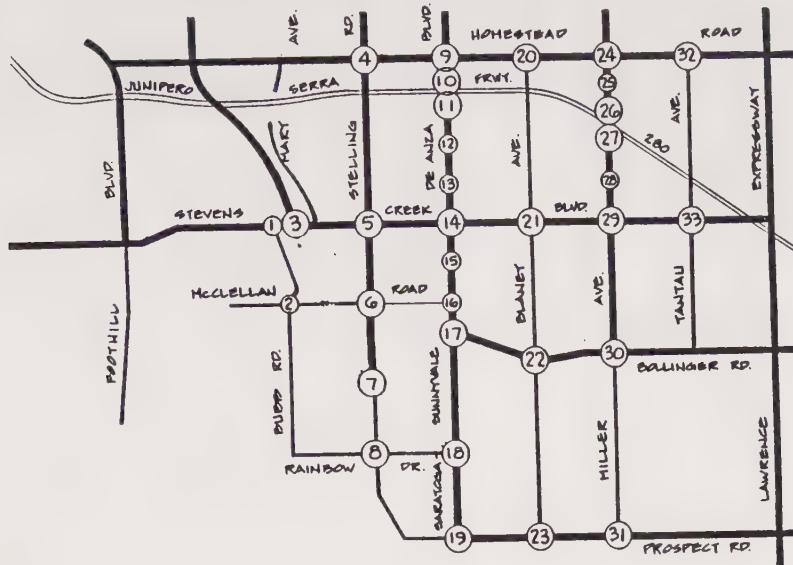


DECREASED PLAN

DECREASED PLAN				
INTERSECTIONS	1979/80 LEVEL	1990 LEVEL	IMPROVEMENT	COST
1. STEVENS CREEK/BUBB				
2. MCCLELLAN/BUBB				
3. STEVENS CREEK/85	B-	B-	Interconnect	
4. STELLING/HOMESTEAD	E-	C-	2 LTO N/B to W/B	\$ 96,000
5. STELLING/STEVENS CREEK	D-	D+	RTO E/B to S/B	\$ 87,000
6. STELLING/MCCLELLAN	C	D	RTO S/B to W/B	\$ 72,000
7. STELLING/85				
8. STELLING/RAINBOW	C	C	2 Lanes Thru S/B	\$170,000
9. DEANZA/HOMESTEAD	E-	D+	3 Lanes S/B to RTO S/B 2LTO W/B S/B	\$ 87,000
10. DEANZA/280 (NORTH)	C+	C+		
11. DEANZA/280 (SOUTH)	D-	C-	2 LTO E/B to N/B + Add LTO Lanes N/B	\$ 75,000
12. DEANZA/MARIANI				
13. DEANZA/LAZANEO				
14. DEANZA/STEVENS CREEK	E+	D	2 LTO W/B to S/B + RTO S/B to W/B	\$296,000
15. DEANZA/RODRIGUES				
16. DEANZA/MCCLELLAN				
17. DEANZA/BOLLINGER*	D-	D+	2 LTO S/B to EB + 3 Lanes Thru S/B	\$100,000
18. SARA/SVALE/RAINBOW				
19. SARA/SVALE/PROSPECT	C	D	2 LTO S/B to EB	\$125,000
20. BLANEY/HOMESTEAD				
21. BLANEY/STEVENS CREEK				
22. BLANEY/BOLLINGER				
23. BLANEY/PROSPECT				
24. WOLFE/HOMESTEAD	C	D+		
25. WOLFE/PRUNERIDGE				
26. WOLFE/280 (NORTH)	A-	B+		
27. WOLFE/280 (SOUTH)	A-	A-		
28. WOLFE/VALLCO PARKWAY				
29. WOLFE/STEVENS CREEK	D+	D-	RTO E/B to S/B	\$55,000
30. MILLER/BOLLINGER	C+	D		
31. MILLER/PROSPECT	C	C-		
32. HOMESTEAD/TANTAU				
33. STEVENS CREEK/TANTAU				
			TOTAL	\$1,163,000
* 6 STELLING/MCCLELLAN	C	C	RTO S/B to W/B + RTO W/B N/B	\$ 145,000
* 30 MILLER/BOLLINGER	C+	C-	2 LTO S/B to EB	\$ 55,000
* 19 SARA SNYVLE/PROSPECT	C	C-	3 Lanes S/B	~ 72,000
* 24 WOLFE/HOMESTEAD	C	C-	RTO S/B to W/B	\$1,435,000
			TOTAL	

FIGURE 4-10b

STREET IMPROVEMENT - DECREASED PLAN

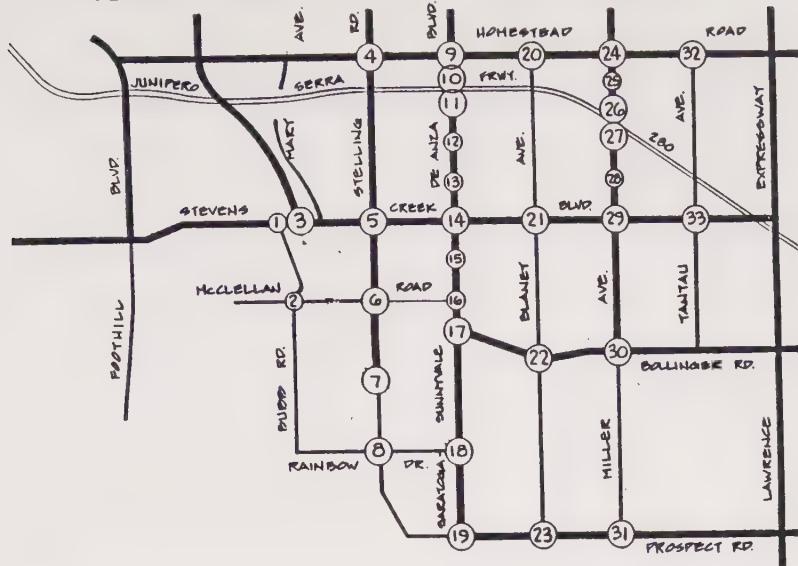


EXISTING PLAN

INTERSECTIONS	1979/80 LEVEL	1990 LEVEL	IMPROVEMENT	COST
1. STEVENS CREEK/BUBB				
2. MCCLELLAN/BUBB				
3. STEVENS CREEK/85				
4. STELLING/HOMESTEAD	B-	B-	Interconnect	
5. STELLING/STEVENS CREEK	E-	C-	2 LTO N/B to W/B	\$ 96,000
6. STELLING/MCQUELLAN	D-	D	RTO E/B to S/B	\$ 87,000
7. STELLING/85	C	D	RTO S/B to W/B	\$ 72,000
8. STELLING/RAINBOW	C	C+	2 Lanes Thru S/B	\$170,000
9. DEANZA/HOMESTEAD	E -	D-	3 Lanes S/B + RTO S/B 2 LTO W/B S/B	\$ 87,000
10. DEANZA/280 (NORTH)	C+	C+		
11. DEANZA/280 (SOUTH)	D-	C-	2 LTO E/B N/B + LTO Lanes N/B	\$ 75,000
12. DEANZA/MARIANI				
13. DEANZA/LAZANEO				
14. DEANZA/STEVENS CREEK	E+	D-	2 LTO W/B S/B + RTO S/B W/B	\$296,000
15. DEANZA/RODRIGUES				
16. DEANZA/MCQUELLAN				
17. DEANZA/BOLLINGER	D-	D	2 LTO S/B E/B + 3 Lanes Thru S/B	\$100,000
18. SARA/SVALE/RAINBOW				
19. SARA/SVALE/PROSPECT	C	D	2 LTO S/B to E/B	\$125,000
20. BLANEY/HOMESTEAD				
21. BLANEY/STEVENS CREEK				
22. BLANEY/BOLLINGER				
23. BLANEY/PROSPECT				
24. WOLFE/HOMESTEAD	C	D	Interconnect	
25. WOLFE/PRUNERIDGE				
26. WOLFE/280 (NORTH)	A-	A-		
27. WOLFE/280 (SOUTH)	A-	A-		
28. WOLFE/VALCO PARKWAY				
29. WOLFE/STEVENS CREEK	D+	D-	RTO E/B to S/B	\$ 55,000
30. MILLER/BOLLINGER	C+	D-		
31. MILLER/PROSPECT	C	C-		
32. HOMESTEAD/TANTAU				
33. STEVENS CREEK/TANTAU				
			TOTAL	\$1,163,000
* 6 STELLING/MCQUELLAN	C	C	RTO W/B to N/B	\$ 145,000
* 30 MILLER/BOLLINGER	C+	C-	2 LTO S/B to E/B	\$ 55,000
* 19 SARA SNYVLE/PROSPECT	C	C-	3 Lanes S/B	0
* 24 WOLFE/HOMESTEAD	C	C-	RTO S/B to W/B	\$ 72,000
			TOTAL	\$1,435,000

FIGURE 4-10c

STREET IMPROVEMENTS - INTERMEDIATE PLAN

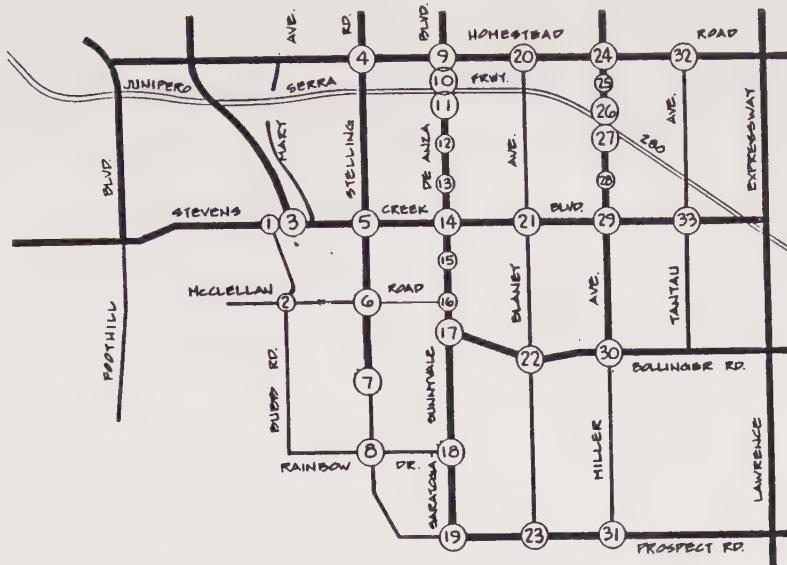


INTERMEDIATE PLAN

INTERSECTIONS	1979/80 LEVEL	1990 LEVEL	IMPROVEMENT	COST
1. STEVENS CREEK/BUBB 2. MCCLELLAN/BUBB 3. STEVENS CREEK/85 4. STELLING/HOMESTEAD 5. STELLING/STEVENS CREEK 6. STELLING/MCCLELLAN 7. STELLING/85 8. STELLING/RAINBOW 9. DEANZA/HOMESTEAD 10. DEANZA/280 (NORTH) 11. DEANZA/280 (SOUTH) 12. DEANZA/MARIANI 13. DEANZA/LAZANEO DEANZA/STEVENS CREEK 15. DEANZA/RODRIGUES 16. DEANZA/MCCLELLAN 17. DEANZA/BOLLINGER 18. SARA/SVALE/RAINBOW 19. SARA/SVALE/PROSPECT 20. BLANEY/HOMESTEAD 21. BLANEY/STEVENS CREEK 22. BLANEY/BOLLINGER 23. BLANEY/PROSPECT 24. WOLFE/HOMESTEAD 25. WOLFE/PRUNERIDGE 26. WOLFE/280 (NORTH) 27. WOLFE/280 (SOUTH) 28. WOLFE/VALLCO PARKWAY 29. WOLFE/STEVENS CREEK 30. MILLER/BOLLINGER MILLER/PROSPECT 32. HOMESTEAD/TANTAU 33. STEVENS CREEK/TANTAU	B- E- D- C C C C E- C+ D- E+ D- D- C A- A- D+ C+ C	D+ D C- D C C D- D- C D- D- B+ B+ D+ C- D+	2 LTO N/B to W/B 2 LTO W/B to S/B RTO W/B to N/B 2 Lanes Thru S/B 2 LTO W/B to S/B 3 Lanes Thru N/B 2 LTO W/B to S/B 3 Lanes Thru S/B 2 LTO S/B to E/B 3 Lanes Thru S/B 2 LTO S/B to E/B RTO E/B to S/B 2 LTO S/B to E/B 3 Lanes Thru S/B 1 LTO E/B to N/B 3 Lanes Thru S/B, No RTO S/B-W/B	96,000 258,000 218,000 170,000 337,000 365,000 850,000 100,000 185,000 50,000 255,000 55,000 2,939,000 25,000 425,000 3,389,000
			TOTAL	
* STEVENS CREEK/85 * STELLING/MCCLELLAN	B- C	B C		
			TOTAL	

FIGURE 4-10d

STREET IMPROVEMENTS - INCREASED PLAN



INCREASED PLAN

INTERSECTIONS	1979/80 LEVEL	1990 LEVEL	IMPROVEMENT	COST
1. STEVENS GREEK/BUBB				
2. MCCLELLAN/BUBB				
3. STEVENS GREEK/85	B-	C+	4 Lanes E/B, 3 Thru, 1 RTO	25,000
4. STELLING/HOMESTEAD	E-	D	2 LTO N/B to W/B 2 LTO W/B to S/B	150,000
5. STELLING/STEVENS CREEK	D-	D	2 LTO W/B to S/B RTO E/B to S/B	420,000
6. STELLING/MCCLELLAN	C	D	RTO W/B to N/B 3 Lanes Thru S/B	570,000
7. STELLING/85				
8. STELLING/RAINBOW	C	C-	2 Lanes Thru S/B	170,000
9. DEANZA/HOMESTEAD	E-	D-	2 LTO W/B, 3 L E/B, 4 L S/B, RTO S/B	812,000
10. DEANZA/280 (NORTH)	C+	C+	3 Lanes Thru N/B	
11. DEANZA/280 (SOUTH)	D-	C-	3 Lanes Thru N/B LTO N/B	365,000
12. DEANZA/MARIANI				
13. DEANZA/LAZANEO				
14. DEANZA/STEVENS CREEK	E+	D-	2 LTO W/B to S/B 4 Lanes Thru S/B & E/B	1,240,000
15. DEANZA/RODRIGUES				
16. DEANZA/MCCLELLAN				
17. DEANZA/BOLLINGER*	D-	D+	2 LTO W/B, 3 Lanes S/B, RTO S/B	150,000
18. SARA/SVALE/RAINBOW				
19. SARA/SVALE/PROSPECT	C	D+	2 LTO S/B 3 Lanes Thru S/B	185,000
20. BLANEY/HOMESTEAD				
21. BLANEY/STEVENS CREEK				
22. BLANEY/BOLLINGER				
23. BLANEY/PROSPECT				
24. WOLFE/HOMESTEAD	C	D-	3 Lanes Thru S/B	50,000
25. WOLFE/PRUNERIDGE				
26. WOLFE/280 (NORTH)	A-	B+		
27. WOLFE/280 (SOUTH)	A-	B		
28. WOLFE/VALLCO PARKWAY				
29. WOLFE/STEVENS CREEK	D+	D	2 LTO W/B to S/B RTO E/B to S/B	255,000
30. MILLER/BOLLINGER	C+	D+	2 LTO S/B to E/B	55,000
31. MILLER/PROSPECT	C	D		
32. HOMESTEAD/TANTAU				
33. STEVENS CREEK/TANTAU				
			TOTAL	4,447,000
19. SARA SYVALE/PROSPECT	C	C-	RTO S/B to W/B	72,000
20. MILLER/BOLLINGER	C+	C	2 LTO S/B to E/B 3 Lanes Thru E/B	275,000
24. WOLFE/HOMESTEAD	C	C-	3 Lanes E/B	450,000
31. MILLER/PROSPECT	C	C+	Adjust Phasing	5,000
6. STELLING/MCCLELLAN	C	C	RTO S/B to W/B	73,000
			TOTAL	5,322,000

The Effect of Traffic on Residential Neighborhoods

The most persistent issue facing local government involves the management of automobile traffic within residential neighborhoods. While General Plans typically contain policies and programs designed to minimize traffic-related problems, engineering principles and standards do not exist to define acceptable levels of traffic in residential neighborhoods. Level of service values used by traffic engineers to assess intersection capacity do not address concerns related to neighborhood livability. The purpose of this section is to discuss neighborhood-related traffic problems in general, to define the state of the art in the development of standards to identify neighborhood livability, to identify specific neighborhood problems in Cupertino, and, finally, to develop an approach to define acceptable levels of traffic for various types of residential streets and the means by which the City can control traffic to obtain and maintain the defined levels.

Different Streets, Different Expectations

Expectations play a major role in determining the satisfaction and perceived livability of the community's neighborhoods. People select housing based upon its affordability but also their personal or family needs. Individuals who locate along major arterials, for instance, have different expectations about traffic and its impacts upon their lifestyle than an individual or family who moves into a relatively quiet residential neighborhood. The level of traffic which would be most upsetting to the individual on the quiet street may not be perceptible by families living on the high volume arterials. Similarly, the resident within the neighborhood will be much more tolerant of neighborhood traffic than through commute trips of persons living outside the neighborhood. The feeling of territoriality (the need to protect one's turf) is involved in the through trip versus local trip issue.

However, all traffic cannot be shifted to arterial streets. Neighborhoods and neighborhood streets generate their own traffic and it is unfair to expect one local street with similar dimensions and characteristics to be favored over another street simply due to the perceptions of activism of its residents. To resolve these conflicts, it is necessary to define an acceptable level of traffic which streets can or should absorb. This is a difficult task due to different perceptions by different individuals. Also, the community must take a fairly conservative position in defining acceptable volumes or be caught up in a constant game of shifting and moving traffic from one street only to impact another.

Acceptable levels of traffic can best be defined in terms of distinguishing between levels which presently characterize so-called collector streets versus those found on typical local residential streets. A number of two-lane collector streets are carrying excessively high volumes with no existing alternative route to spread the burden or mitigate the impacts.

These streets include Bubb Road, Stelling Road, McClellan Road, Blaney Avenue, Rainbow Drive, Tantau Avenue, Prospect Road. Other streets do not carry exceptionally high volumes but have been singled out in various complaints as carrying more than "their share" of traffic or putting up with excessive speeding and reckless driving. Examples of these streets include Lazaneo, Pacifica Drive, Columbus Avenue, Orange Avenue, Portal Avenue, Cold Harbor Avenue and Vicksburg Drive.

The Influence of Time of Day and Day of Week

Expectations concerning traffic are also heavily influenced by the time of day and day of the week. People generally are more tolerant of higher traffic levels during peak commute hours when they themselves are part of the traffic flow. Residents adjust their lives during these periods to restrict play away from street areas. However, people are less tolerant of high traffic volumes during weekends, weekdays and evenings when they are typically at home. The lowest tolerance is during the

nighttime hours in which people are attempting to sleep and expect a high level of quiet in the neighborhood. Other times of day which characterize higher volumes in Cupertino include the weekday noon hour and weekend shopping times which attract higher volumes to Cupertino's commercial areas. These periods are broken down as follows:

1. Weekday peak hour peak direction.
2. Weekday noon hour.
3. Weekday evening.
4. Weekend.

Table 4-2
Traffic Generation Characteristics
of Land Use

Time	Industrial	Office	Commercial	Residential*
<u>Weekday</u>				
Peak Hours				
Peak Direction	X	X		X
<u>Weekday</u>				
Noon	X	X	X	
<u>Weekday</u>				
Evening			X	X
<u>Weekends</u>				
			X	X

*Residential uses tend to generate traffic throughout the day.

From the above chart, it is easy to see why many residents who are adjacent to Cupertino's major boulevards favor office uses over both commercial and residential uses. Fortunately, the land use options being considered all carry a relatively heavy component of office uses which can be expected to minimize the traffic impacts during the critical "off-work" times.

Development Location

The location of a traffic generating facility greatly influences its real and perceived impacts upon the community. For instance, the

traffic generated by Vallco Park is dispersed along the nearby major arterials which serves that facility. A similar facility located on the west end of Town could have major impacts upon the livability of surrounding neighborhoods. Location is also a major determinant in the future feasibility of and service from mass transportation facilities such as bus routes. Vallco Park is similarly favored in this respect as there is planned to be located a large bus transfer station within Vallco Park.

Qualitative Measures of Traffic Effects

The majority of residents living within Cupertino have an intuitive judgment regarding factors which determine a high quality neighborhood from a poor quality neighborhood. Certainly, high on the list is the degree to which traffic intrudes upon the residential neighborhood. During the past decade, a number of researchers have attempted to develop a better understanding of effect of traffic on residential neighborhoods. The research had its genesis in attempts to resolve the controversy surrounding the construction of freeways and expressways through residential neighborhoods. The initial emphasis was placed upon the proximity effects of traffic such as noise and air quality effects. The traditional engineering related studies gradually transitioned into broader "environmental capacity" studies of city streets. In a publication entitled "Social and Economic Affect of Highways", published by the U.S. Department of Transportation in 1974, a reference was made to a Louisville, Kentucky study which incorporated a 20,000 person questionnaire. The survey indicated that noise, air pollution, pedestrian safety were the main traffic-related problems and that total traffic volumes that could be tolerated without environmental harm varied according to the street type and land use. The study included that the following maximum ADT (Average Daily Traffic) volumes could be permitted for street types as follows¹:

14,000 on 4-lane (some 2-lane), single-family residential,
15,500 on 4-lane, single and multi-family residential, and
35,700 on 4-lane, commercial, recreational, and industrial.

1. "Sound and Economic Effects of Highway", U.S. Department of Transportation, Federal Administration, Washington, D.C. Page 28.

The maximum daily number of vehicles listed above would probably not be acceptable to the majority of citizens in Cupertino or other suburban communities. Perhaps, one of the most widely read researchers of the effect of traffic on residential quality is Donald Appleyard, a Professor of Urban Design at the University of California, Berkeley. Professor Appleyard has written a number of articles and authored a book on the subject entitled "Livable Streets". One of Professor Appleyard's most interesting studies is an evaluation of traffic on various neighborhoods in San Francisco. The purpose of the study was to correlate traffic volumes to the manner in which residents adapt to traffic and to determine whether or not residents perceive their streets as acceptable or unacceptable living conditions. The study considered variables related to the age and income of residents and type of housing.

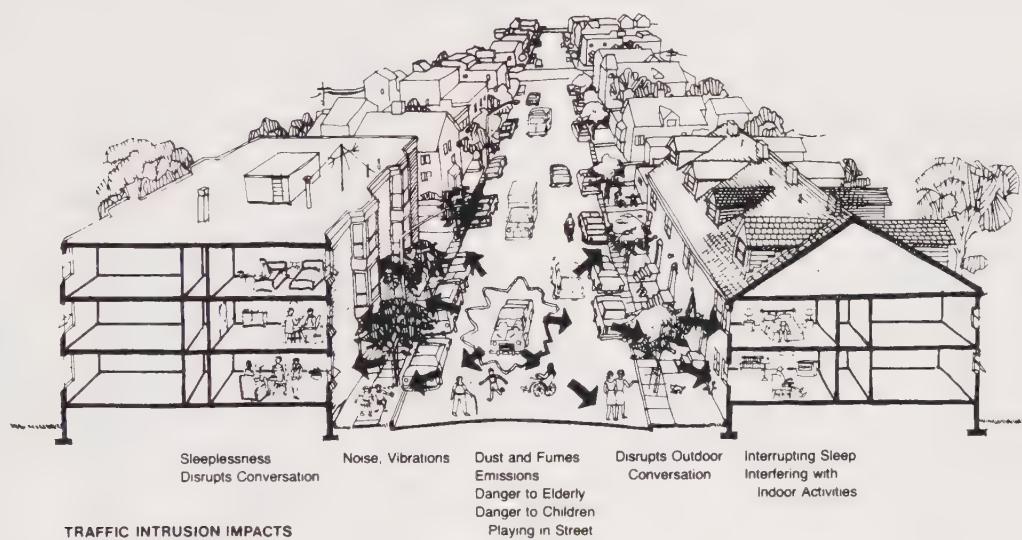
The findings of this study generally concluded that a street with heavy traffic (greater than 16,000 vehicles per day) leads to neighborhood stress. Whereas, people who live along a similar street with light traffic (2,000 vehicles per day) "regarded the street as part of their own territory and made use of it"².

The study's findings and conclusions cannot be viewed as scientific measures and as the volumes listed above could not be adopted as a standard measurement for acceptable streets. The study does, however, provide insight on how people adapt to changing traffic conditions. The adaptation took place in a number of subtle ways. Figure 4-14, which is reproduced from Appleyard's book "Livable Streets" illustrates perceived traffic impact and adaptive responses.

2. ibid, Page 27



BEFORE TRAFFIC IMPACTS



TRAFFIC INTRUSION IMPACTS



ADAPTIVE RESPONSES

Adapt Interior Space
Migrating
Unused Front Room Space

Grilles or Shutters
Security Lights, Burglar Alarms
Debris
No Parking Signs
More Street Trees for Buffer

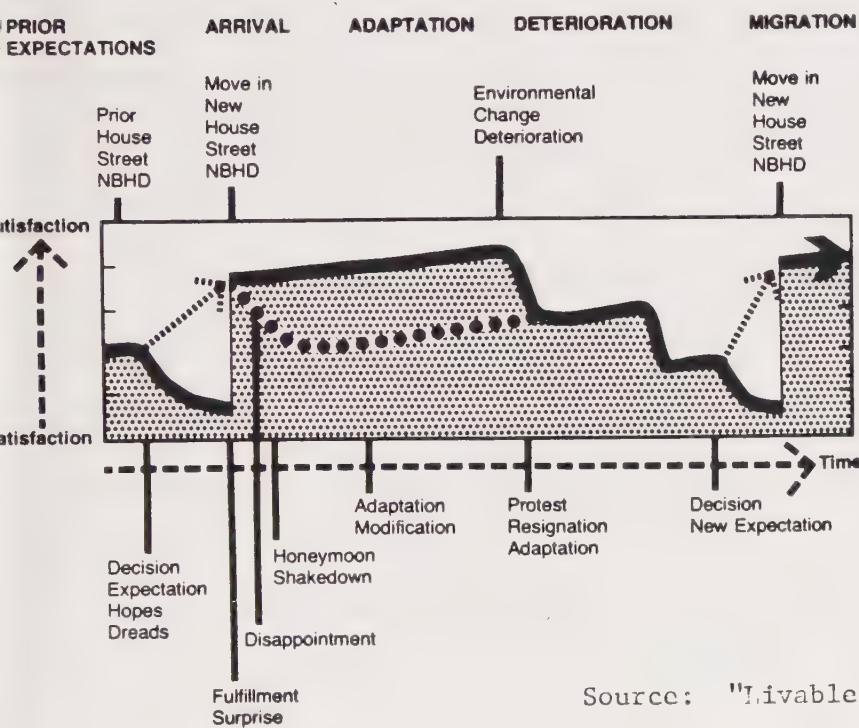
Walking or Supervising
Children's Activities
Group Protest Against
Congestion

Fences, Shrubs to
Block Noise
Children Play Inside
Move Quiet Areas to Rear
Backyard Leisure Orientation

FIGURE 4- 11

Some of the adaptive responses described on Figure 4-11 are visible from the street while others are not. For example, the decision not to acquire a new pet or replace one killed by traffic or the gradual shifting of living activities from the front part of a house to the rear are not seen but nevertheless affect the lifestyle of residents. Appleyard discusses a satisfaction curve in a "Livable Streets". The curve is reproduced below. The curve describes a typical residents's response

FIGURE 4-12
RESIDENT SATISFACTION WITH THEIR STREET OVER TIME



Street satisfaction over time. This graph seeks to explain why residents' levels of satisfaction will change depending on time of residence, environmental changes, and expectations of alternative residence. Newcomers will usually be satisfied (unless surprised by some unexpected situation); with adaptation and modification they will make conditions continually better (hence the rise in satisfaction in times of stability). Environmental changes, including traffic increases, or different populations can reduce desirability of the residence. They may protest or resign themselves to the change, but if it is too severe, they will ultimately decide to move.

Source: "Livable Streets", Donald Appleyard (Page 39)

to change, in this case, traffic change. The chart and accompanying text helps to explain why a resident who purchases a home on a four-lane heavily traveled arterial will have a different set of expectations than a person who moves on a

relatively lightly traveled street that is proposed to be turned into an arterial or will be exposed to some other traffic-related or land use related change that will increase traffic. While both streets may be identical in width and the homes adjoining that street may be identical, the expectations of both residents are different.

The Cupertino Planning Commission and City Council like other public officials are aware of different levels of expectations as a result of public hearings involving circulation and land use planning. It is not all uncommon for an individual to complain bitterly about the potential for a 300% increase in traffic which in actual numbers translated from an all day trip factor of 100 cars a day to 400 cars a day. Conversely, residents living on a major street with 12,000 to 20,000 cars a day would not notice traffic increases of 2-3% (400 cars a day). This phenomenon was incorporated into a traffic standard developed by Donald Goodrich, labeled "TIRE Index". The index was presented to the Planning Commission in the context of the Seven Springs Ranch Environmental Impact Report.

The TIRE (Traffic Infusion on Residential Environment) Index is a mathematically derived series of values that is built on the premise that traffic increases have a greater impact on a street with a low volume than a street with a pre-existing high volume. The TIRE Index table is reproduced as Table 4-3 below:

TABLE 4-3
TIRE INDEX TABLE

Vehicles Per Day (Range)	TIRE Index	Vehicles Per Day (Range)	TIRE Index
6-7	0.8	711-890	2.9
7-8	0.9	891-1,100	3.0
9-10	1.0	1,101-1,400	3.1
11-14	1.1	1,401-1,800	3.2
15-17	1.2	1,801-2,200	3.3
18-22	1.3	2,201-2,800	3.4
23-28	1.4	2,801-3,500	3.5
29-35	1.5	3,501-4,500	3.6
36-44	1.6	4,501-5,600	3.7
45-56	1.7	5,601-7,100	3.8
57-70	1.8	7,101-8,900	3.9
71-89	1.9	8,901-11,000	4.0
90-112	2.0	11,001-14,000	4.1
113-140	2.1	14,001-18,000	4.2
141-180	2.2	18,001-22,000	4.3
181-220	2.3	22,001-28,000	4.4
221-280	2.4	28,001-35,000	4.5
281-350	2.5	35,001-45,000	4.6
351-450	2.6	45,001-56,000	4.7
451-560	2.7	45,001-71,000	4.8
561-710	2.8	71,001-89,000	4.9

The index works on the premise that any change .1 or greater would be noticeable to residents. For example, if a street with a TIRE Index of 1 (ten cars per day) increases to 14 cars per day, the increase would be noticeable. Conversely, if a street with a TIRE Index of 4 (approximately 11,000 cars per day) would required an increase of 3,000 cars per day to be noticed.

The TIRE Index or a similar index has not gained acceptance as a subjective traffic indicator and appears to require additional work encompassing other factors to make it sensitive to variations in conditions of various streets. However, the Index does represent an interesting approach to attempt to quantify the degree to which a resident can perceive changes of traffic volumes.

Economic Measures

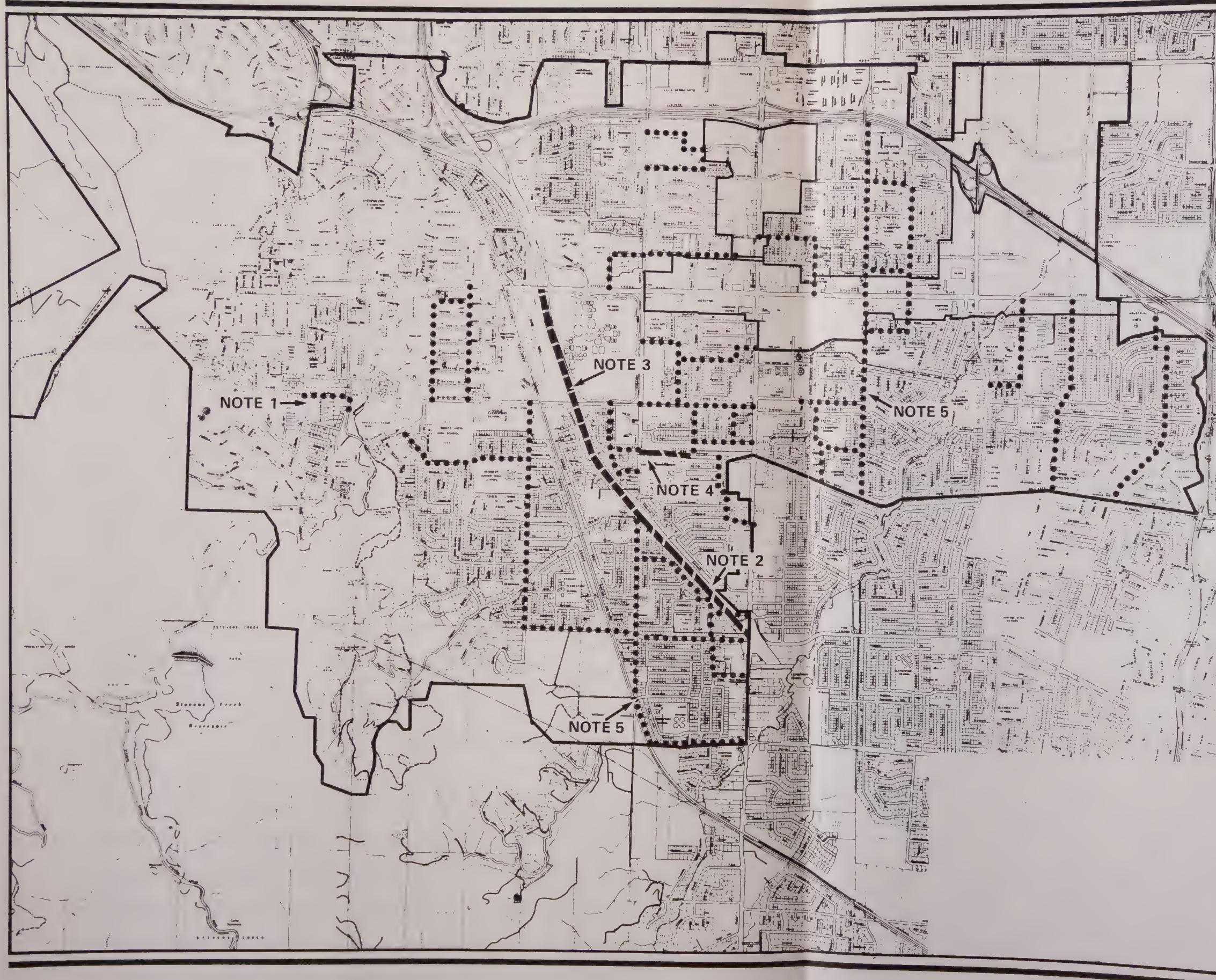
It should be no surprise that the perceived threats associated with increased traffic in residential neighborhoods can eventually translate into reduced property values. A recent article in the American Planning Association Journal³ described how a community's traffic policies affected the property values. The study evaluated changed in property values of two adjoining neighborhoods following the implementation of a traffic management plan in one of the neighborhoods. The study concluded that the neighborhood protected from through traffic had relatively greater increases in property values than did the adjoining non-protected neighborhood. The study also generally concluded that the Traffic Management Plan was cost-effective in that the increased values in the neighborhood versus the cost of the plan resulted in a cost-benefit ratio of 3-1.

3. "The Effects of Traffic Flow on Residential Property Values," D. Gordon Bagby, Journal of the American Planning Association, Washington, D.C., January 1980.

Defining an Acceptable Level of Traffic for Residential Streets

There are two general approaches to determining the acceptable level of traffic for residential streets. The first approach is to develop a specific numerical standard expressed in terms of ADT or peak hour volumes by street type or to use a level of service indicator by street type. The second approach is to develop a more flexible plan which recognizes the existing street pattern and All Day Trips and Peak Hour Trips. The first approach was rejected early on by the Planning Commission. In order to identify streets which are or may be affected by excessive through traffic, it is first necessary to define which area should be isolated from through traffic and which trip type constitutes a through movement. Figure 4-15 identifies residential streets classified as local streets or minor collectors which are impacted or potentially could be impacted by through traffic. A question arises whether some minor collectors should be reclassified as "local streets". Such a reclassification would imply the traffic from outside the immediate neighborhood would be diverted onto the arterial system in lieu of "cutting through" the residential area. The fundamental approach is to manage traffic in a way to force traffic onto major arterial systems from local and minor collector streets. The management system would be developed regardless of which four land use options or their derivatives is chosen as a final plan amendment.

TRAFFIC IMPACT



RESIDENTIAL STREETS PRESENTLY OR POTENTIALLY IMPACTED BY THROUGH TRAFFIC

DEFINITION: Through Traffic

Vehicle trips on residential streets which originated from and/or were attracted to areas outside the immediate neighborhood. The neighborhood is defined as that residential area bordered by the arterial street system of freeways, arterials and major collectors. Through traffic is also trips originating from and/or attracted to major commercial, industrial or institutional facilities when alternative streets which are part of the arterial system are available to reasonably serve said facilities.

LEGEND

- Impacted Residential Streets
- 85 Full or Partial Extension

NOTES

1. Presently both Santa Paula Avenue and McClellan Road function as through streets.
- 2*. Highway 85 right-of-way partial extension Stelling Road to Saratoga-Sunnyvale Road.
- 3*. Highway 85 right-of-way link between Stelling Road and Stevens Creek Boulevard. When combined with the link described in Note 2 constitutes the full extension of 85 through Cupertino.
- 4*. Bollinger Road extension.
5. The designation of Stelling Road and Blaney Avenue as impacted by "through traffic" depends upon its classification as a local street or a collector street.

* Improvements listed under Notes 2, 3 and 4 should be evaluated based upon their potential to alleviate already impacted residential streets (McClellan Road from Stelling Road to De Anza Boulevard and Stelling Road south of McClellan Road) and present or potentially impacted minor neighborhood streets.

TRANSPORTATION STRATEGY - POLICIES AND MITIGATION OF IMPACTS

The City's transportation strategy should define goals in terms of how the transportation system serves and impacts the community. The following elements should be included in the development of the transportation strategy:

1. Traffic related land use controls should be implemented to discourage activities which produce a significant level of traffic during off work hours such as weekday evenings and weekends.
2. Land use related traffic control should ensure that high intensity development is located adjacent to major arterials.
3. Transportation improvements should accommodate peak traffic flows at a minimum D level of service or if feasible maintain existing levels of service which are higher than D. The percent or absolute number of through trips on arterial and major collector streets shall not be regulated.
4. Local streets should not carry any through traffic. Through traffic on a minor collectors should not fall below a percentage range of peak hour traffic to total ADT. A traffic systems management plan should be developed to protect local and minor collector streets from commute traffic which exceeds an identified standard. Through traffic includes through commute traffic and traffic generated by a major commercial or industrial development on the periphery of a neighborhood.
5. A financial implementation plan should contain provisions which ensure that major improvements are installed either prior to or in conjunction with major developments. A financial plan should be based upon the principle of equity in terms of ensuring that developments with the greatest degree of intensity fund a correspondingly higher portion of improvement costs. To the greatest extent possible, funding of previous road improvements will be considered in determining the

burden of funding future improvements. The financial plan should also link the construction of road improvements to the approval and construction of major land development.

6. If found to be economically viable, the City should expand the capacity of the existing arterial system and construct a new facility in the 85 corridor to decrease the potential for future growth on major and minor collectors.
7. A monitoring system should be developed to ensure that through traffic within the local and collector street system does not exceed the agreed upon percentage of traffic movement. A localized traffic management plan will be developed to ensure that streets function based upon that classification.
8. If the intermediate or increased plan is adopted, the Traffic Reduction Committee, formed in the mid 1970's, should be reconstituted to consider the construction of a jitney service linking a proposed bus transfer station in Vallco Park with Town Center and North De Anza Boulevard areas. The service would only be implemented if feasible. The system could be coordinated by major developers, the City, representative from County Transit District, or a combination thereof. It is anticipated that the jitney service could be installed in conjunction with van pooling requirements imposed on the majority of use permits for facilities constructed within the core area.

The above stated policies reflect the apparent objectives of the Planning Commission and the City as elaborated upon in the existing General Plan and through the General Plan hearing process. The next step is to develop the desired classification of streets by function within the community.

Desired Street Function

Preceding sections have outlined the perceived function of streets and the impact of traffic upon residential neighborhoods. Additionally, the preceding objectives require that the City carefully analyze the performance of streets and develop guidelines to ensure that streets acting out of their classification are modified to achieve the desired objectives when practical.

The following outlines five steps necessary to achieve this end. Note that step one has been accomplished in the preceding section as defined by the Planning Commission. Step two is the objective of the following section.

Table 4-4

Classification of Streets

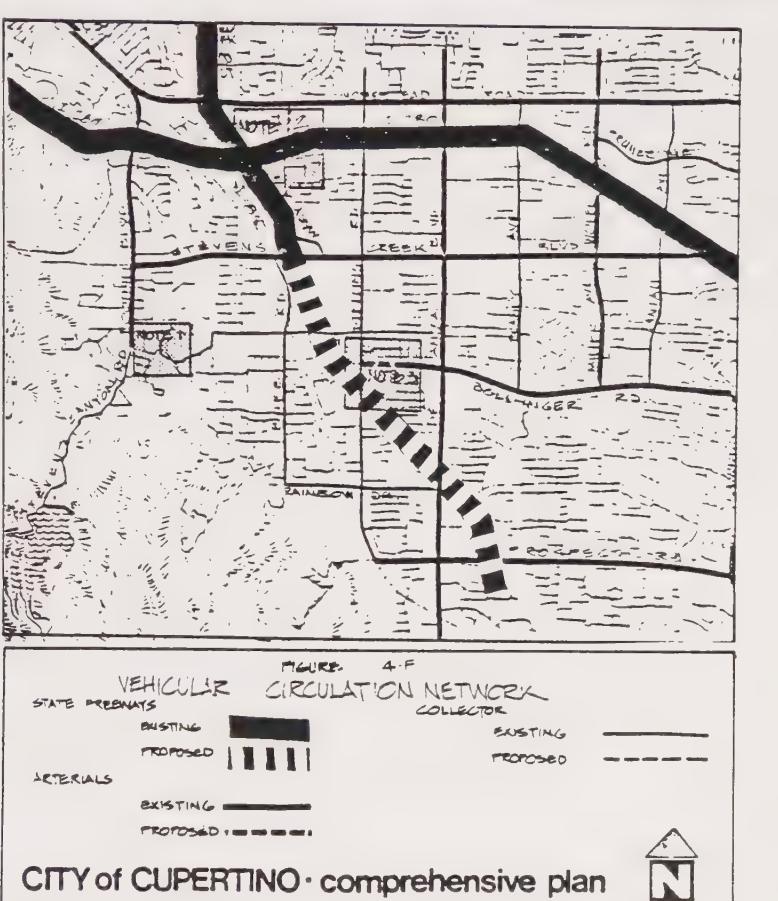
Step 1	Define present function
Step 2	Identify desired function
Step 3	Identify functional indicators (performance standards) for residential street types (minor collector, residential and local streets). <ul style="list-style-type: none">. ADT. Evening peak hour percentage. Peak hour through movement
Step 4	Set guidelines for future performance <ul style="list-style-type: none">. Minor collectors. Local streets
Step 5	Evaluate means to achieve desired function ... are they reasonable? <ul style="list-style-type: none">. Improvements<ul style="list-style-type: none">- Intersection widenings- Added lanes on arterials- Etc.. Impediments<ul style="list-style-type: none">- Stop signs- Diversion<ul style="list-style-type: none">- Median- Pork Chops- Signal phasing

The existing General Plan outlines how streets were presumably intended to function which closely reflects how the Commission now perceives the streets to be functioning. The revised definitions incorporated in the preceding section however require a more sensitive evaluation of the streets' physical characteristics and functioning and the impacts upon the surrounding neighborhoods.

FIGURE 4-14

VEHICLE CIRCULATION NETWORK - EXISTING GENERAL PLAN

CIRCULATION



Note 1: The final delineation of the street network in the McClellan, Santa Paula and Mira Vista area will be decided in context of specific hearings following adoption of this plan. The policies of the Circulation Element will be of prime importance in considering the role and function of streets in this area.

Note 2: Mary Avenue overpass represents a long-term improvement which will have to be evaluated for its effect on the adjacent neighborhoods, traffic volumes on Stelling Road, and relative improvement of access to De Anza College.

Note 3: Bollinger Road extension should be evaluated to determine the amount of relief it will bring to McClellan Road. The roadways specific alignments will be evaluated to minimize severing of parcels and retention of the most logical parcel size.

Arterials and Major Collectors

The desired street function should outline differences between arterial streets and major collectors but cannot realistically be expected to change the preferences of commuters if the major collector street is in fact a more expeditious route through the City. However, this hierarchy will enable the City's Public Works Department to prioritize movement to emphasize the arterial street over the major collector street which may in itself result in the changing of driver habits.

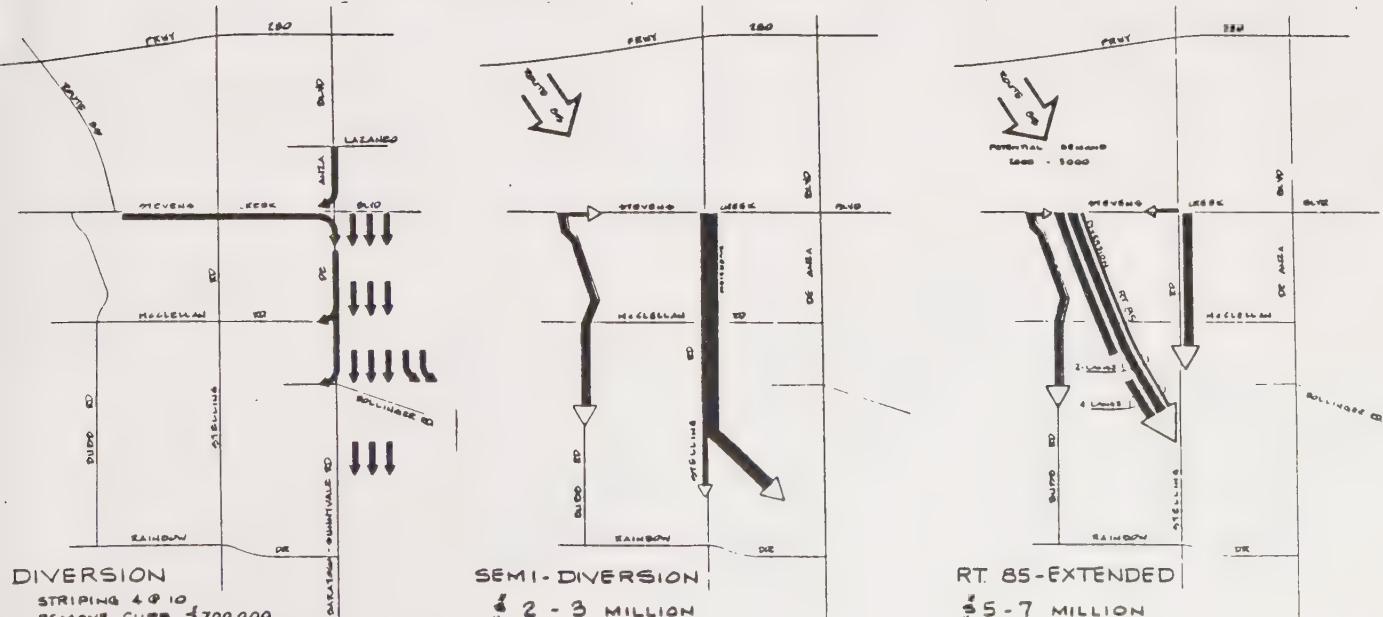
Minor Collector Streets

The second category where the greatest discrepancy is noted is the area of minor collectors versus major collector streets. As noted in the preceding section, Stelling Road south of 85 right-of-way, McClellan Road east of Stelling, and Blaney Avenue all appear to be functioning as major collectors even though the physical characteristics of these streets would qualify them as minor collectors. The minor collectors status would imply that a limit of through vehicular movement could be established and that an alternative route is available for the through traffic now utilizing these roadways.

Stelling Road

In the case of Stelling Road the alternatives are outlined on Figure 4-15.

FIGURE 4-15
TRAFFIC SHIFT OPTIONS FOR STELLING ROAD



These alternatives do not relieve traffic impacts for the portion of Stelling Road north of Stevens Creek Boulevard and south of Homestead Road. This segment also has only two lanes with direct access to abutting properties which is characteristic of a local collector street. In the case of this northerly leg of Stelling Road there appears to be limited alternatives, primarily in the form of extending Mary Avenue over the freeway or in the additional widening of Stelling with considerable right-of-way "take" and resultant impact upon the adjoining houses.

McClellan Road/Bollinger Road

The impacts upon McClellan Road from Stelling to De Anza Boulevard result from its status as the only east-west connecting street for a significant portion of the community. The City's General Plan has long anticipated the extension of Bollinger Road to help relieve traffic impacts on McClellan Road and in fact has taken dedication for a four-lane 90 foot right-of-way from development at the existing Bollinger Road westerly terminus. It logically appears that the surface road connection between Stelling and De Anza Boulevard along the 85 right-of-way will do little to relieve the east-west bound movement now utilizing McClellan. It therefore appears necessary to extend Bollinger Road from its present terminus to Stelling Road as a four-lane major collector street to relieve the significant volumes presently existing on this reach of McClellan Road. Leaving both streets open will help to ensure that the burden of east-west movement is shared. Additionally, the 85 extension may help to relieve some of the east-west traffic demands.

Blaney Avenue

The final street apparently acting out of the desired classification is Blaney Avenue from Homestead Road to Bollinger Road through Cupertino. The preceding section illustrated the volume increases on this street which have occurred since 1972 without any new development activity.

These figures imply that while the peak hour traffic movement is not increasing, many motorists traveling "off-peak" find Blaney Avenue a convenient bypass from Bollinger to Stevens Creek Boulevard in lieu of utilizing an arterial or major collector street. Resolving this conflict cannot happen without some cost in the form of loss of convenience. The Town Center developer has agreed to conduct an in-depth traffic evaluation of the Blaney Avenue neighborhood to understand its present characteristics more fully and evaluate techniques to ensure that traffic from the Town Center development does not intrude into the Blaney Avenue neighborhood. It is hoped that this analysis will aid the development of techniques to protect this street. The land use decision on the Town Center should be contingent upon arriving at a satisfactory resolution of the function and classification of Blaney Avenue and impacts upon the surrounding neighborhood streets.

McClellan Road - Westerly Terminus at Foothill Boulevard

The 1979 General Plan left the McClellan Road street function at the westerly terminus to be determined at a future date. It now appears that McClellan Road at the westerly terminus is clearly functioning as a local collector street in view of the volumes and primarily as the result of the lowering of densities in the hillside area. Therefore, it is believed appropriate to designate McClellan Road as the local collector street eliminating Santa Paula's combined designation to perform this function.

Bubb Road

Bubb Road similarly appears to be carrying a significant volume of traffic even though a small percentage of peak traffic appears to be through traffic movement. The roadway from Stelling Road to De Anza Boulevard

should help to provide an acceptable alternative for employees within the West Valley Industrial Park seeking access to De Anza Boulevard and Prospect Road. The implementation of additional impediments to slow traffic should help to discourage its use as a commute bypass.

Future Street System - Summary

The Cupertino street system can be designed to relieve some impacted residential areas and provide a relatively efficient flow of traffic during peak and non-peak hours. As discussed in the preceding section there are several street decisions which can shift through traffic out of neighborhoods. These improvements have been consolidated into the hypothetical "Future Street System" diagramed in Figure 4-16.

FUTURE STREET SYSTEM

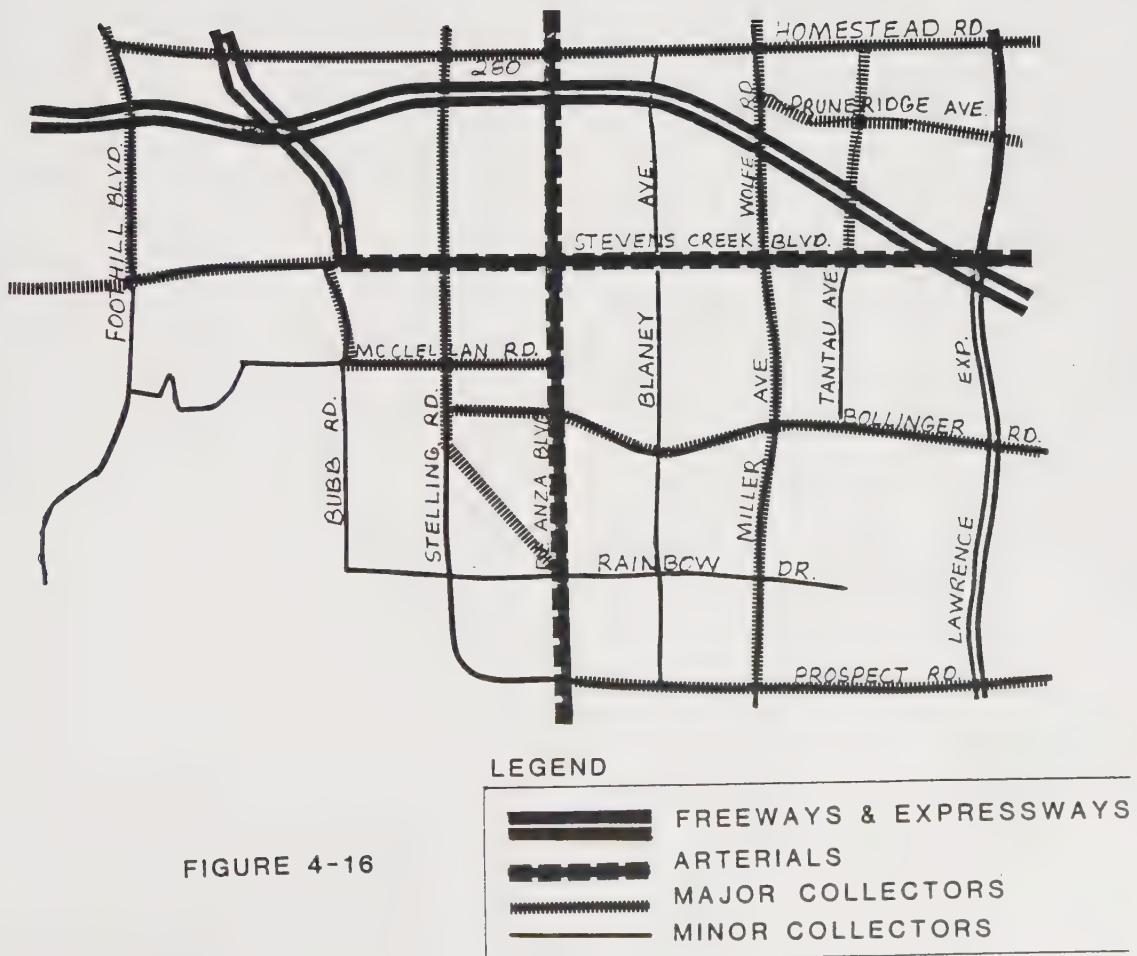


FIGURE 4-16

5 MARKET FEASIBILITY/ FISCAL IMPACT

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Purpose/Overview	5-1
Goals and Objectives	5-1
Existing Setting	5-1
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Market Feasibility and Fiscal Impact

Purpose/Overview

The five General Plan Alternatives raise fundamental questions relating to their market feasibility and their relative fiscal impact upon the community. These questions, in turn, relate to the City's philosophy concerning responsiveness to economic trends and private market pressures; accommodating expansion plans of local business; the level of public control exercised over the private marketplace; and the fiscal health and tax structure desired by the community. The General Plan options range from the modified increased intensity scenario which accommodates higher building to land area ratios, to the decreased scenario which restricts building intensity below those levels desired by the marketplace.

The issue of market feasibility and fiscal impact of the General Plan options is discussed in the Economic Report entitled "Economic Analysis - City of Cupertino General Plan Amendment" by Questor Associates (April 1982). The Questor Report breaks down the economic question into the broad headings of market feasibility; housing affordability and fiscal impact.

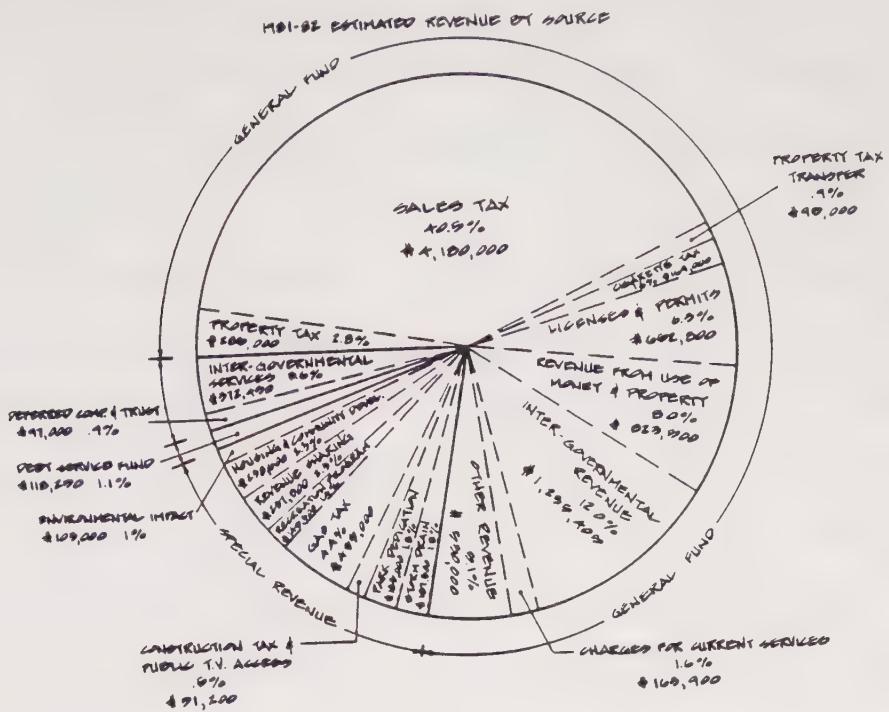
Goals and Objectives

Cupertino has consistently advocated a mixed community of housing, industrial and commercial land uses to ensure a dependable tax base. The appropriate mixture of land uses and a conservative financial attitude has ensured a positive balance of revenues overcosts and a high level of public service to the residents of Cupertino. The City's policy of relating land use to its fiscal condition is stated in the General Plan on Page 2-3. The Cupertino Goals Committee Report entitled "Looking Forward to the 80's" emphasizes the Committee's interest in efficient service delivery and cost recovery from land use forms which require extraordinary municipal expenditures.

Existing Setting

Presently, sales taxes comprise approximately 40% of all revenues with the

property tax amounting to only 3% of revenues coming to the City (1981-82 Budget).



Municipal expenditures are primarily directed toward capital improvement projects and public safety and protection as delineated on the chart below.



1981-82 ESTIMATED EXPENDITURE SUMMARY	
EMPLOYEE SERVICE	\$ 2,791,020
SUPPLIES AND SERVICES	4,121,680
CAPITAL OUTLAY	184,910
TOTAL OPERATING BUDGET	7,100,180
CAPITAL IMPROVEMENTS	2,499,019
TOTAL BUDGET	\$ 9,599,199

While the present land use mix has enabled the City to maintain a positive fiscal balance, all indications are that this situation is changing. The following section on the Future Setting discusses this in more detail.

Future Economic Setting

Cupertino's local economic condition is only a part of and is highly dependent upon the condition of the regional economy. Until recently, the Santa Clara Valley has experienced a very rapid rate of growth. The Questor Report projects that the Valley will continue to experience economic growth but perhaps at a slower rate. To obtain a second appraisal of the regional economic picture, the staff obtained copies of the recently completed report entitled "Santa Clara County: Growth Prospects for 1990" prepared by Wells Fargo Bank (April 1982). This report provides a comprehensive evaluation of the many different factors which influence growth in the Santa Clara Valley and agrees, in many respects, with the projections of the economic analysis prepared by Questor Associates.

The following sections outline the future economic setting in terms of market feasibility and fiscal impact as reported in the Questor Study.

Market Feasibility

The Questor Report projects that all of the land use alternatives will be feasible within the future market setting. The report indicates that the Intermediate and Increased Intensity Plans reflect the preference of the marketplace and that only the commercial component of the increased intensity scenario is unrealistic in terms of its market feasibility.

The following outlines the Questor Report findings:

1. There will continue to be a strong demand for industrial manufacturing and administrative office space in the near future. Of the high demand for office space, Questor is careful to point out

that this involves administrative office space attributable to local manufacturing firms. The office will not be of the general professional, medical, legal, and commercial space which exists in much of Cupertino today. Additionally, the industrial manufacturing space will give way to research and development related activities.

2. The commercial expansion within Vallco Park (350,000 sq. ft.) can be accommodated by the market although Vallco must draw from the primary market area (five mile radius) and secondary market area (the urbanized area of Santa Clara County). The report notes that Vallco Park is a highly competitive and very successful center and should have no problem capturing the projected commercial demand necessary to justify the increase in square footage. The report notes that the capture of future commercial demand is restricted to regional mall space. Existing convenience and community shopping center will not be able to compete for this demand. Strip development along Stevens Creek Boulevard may be able to attract 100,000 - 200,000 sq. ft. of entertainment/restaurant space should the expanded Vallco Park plan be approved.
3. Vallco Park will have a negative market impact upon nearby regional shopping centers including Stevens Creek/Valley Fair, Sunnyvale Town Center, and to some degree the El Paseo De Saratoga Shopping Center and Pruneyard Shopping Center. The economists has pointed out to the staff that it is reasonable to assume that if Vallco Park does not expand that their capture ratio of the new increment of commercial demand may decline. The difference would be picked up by regional shopping centers in surrounding communities as they expand to become more competitive.
4. The local market impacts of the commercial shopping center expansion will be limited to specialty shopping found within the Crossroads and Oaks Shopping Center. The remaining centers in Cupertino are primarily

oriented to convenience goods or discount goods and are not expected to be negatively impacted.

Fiscal Setting

As indicated earlier, the land use mix has enabled Cupertino to maintain a positive balance of revenues to costs while cutting property taxes. Cupertino has achieved this even in light of the recent Proposition 13 and Proposition 4 limitations on revenues and expenditures. All evidence suggests that this situation is changing. For the first time, Cupertino is facing a long-term deficit of revenues to costs. In light of the above, the future revenue generation potential of different land use options takes on an increased significance.

The Economic Report projects that the Increased and Intermediate Plans provide the greatest positive fiscal benefits to the community. The staff estimates the modified Increased Plan to also bring relatively substantial revenues over-costs (approximately three million dollars), although the surplus is less than the Increased Plan option due to the lower commercial square footage.

The change in land use form which may occur under these plans, however, does not come without its cost. The Central Fire District has projected that a building form exceeding four to six stories will result in the requirement for a significant modification of the present fire-fighting capability. The Fire District projects that future staffing costs will amount to roughly .75 million dollars per year and a one time future capital cost of roughly 1.0 million dollars. Still the increased land use scenario will result in a fiscal surplus of roughly 4.0 million dollars and the Intermediate Plan, 1.8 million dollars. The wide gap between these two plans is largely attributable to the commercial component of the Increased Plan which the Economic Report indicates is not realistic in terms of the marketplace. Therefore, the expected surplus of the Increased Plan must be tempered with the realization that some of the

commercial increases will not occur. The existing General Plan and decreased alternative provide relatively marginal fiscal incentives and can still be expected to trigger some of the cost projections outlined in the Central Fire District memo.

Fiscal Comparison

The impact of the General Plan land use options is better understood if Cupertino's fiscal condition is evaluated relative to other similar sized communities. The staff conducted a survey of 34 California communities evaluating fiscal operating costs and revenues. Each community was surveyed relative to its land use intensity to evaluate if there is a correlation between operating costs and land use mix. The communities ranged in size from 25,000 to 45,000 population and square miles of roughly 5.5 to 15. The survey attempted to further isolate the variables by looking at the relationship between incidences of criminal activity and land use intensity. Each city was plotted on a scatter diagram and then the average values were calculated to identify the "trend line".

While this evaluation is not a scientific survey, it does provide a crude comparison of the relationship between these variables. There are several other major factors which influence the operating costs of the community which were not included in this analysis. These factors are listed below:

Income Levels of the Community

Level of Service for particular Services

Historical Revenue Trends

Extraordinary Conditions such as tourism

All of these factors would have a significant influence upon the level of spending and/or revenues generated by a particular community.

The operating budget of each community was compared for the year 1980-81. The budget was adjusted to eliminate any major expenditure categories which differ from Cupertino's budget or types of municipal services offered. For instance, revenues or costs from City run garbage facilities, sewage facilities or a City operated fire department were adjusted out of the operating budget.

Intensity of land use was evaluated by comparing sales tax volume, acreage of commercial development, acreage of office and industrial development, existence of buildings greater than three stories in height, and whether the community contains a regional shopping center greater than 400,000 sq. ft. or some comparable area such as a large downtown area. Additionally, communities were ranked depending upon whether they have greater than 20% multiple family housing within their housing stock. These crude indicators of land use intensity help to rank communities from the homogeneous community with primarily single-family residential land uses to the mixed community with a variety of land use types.

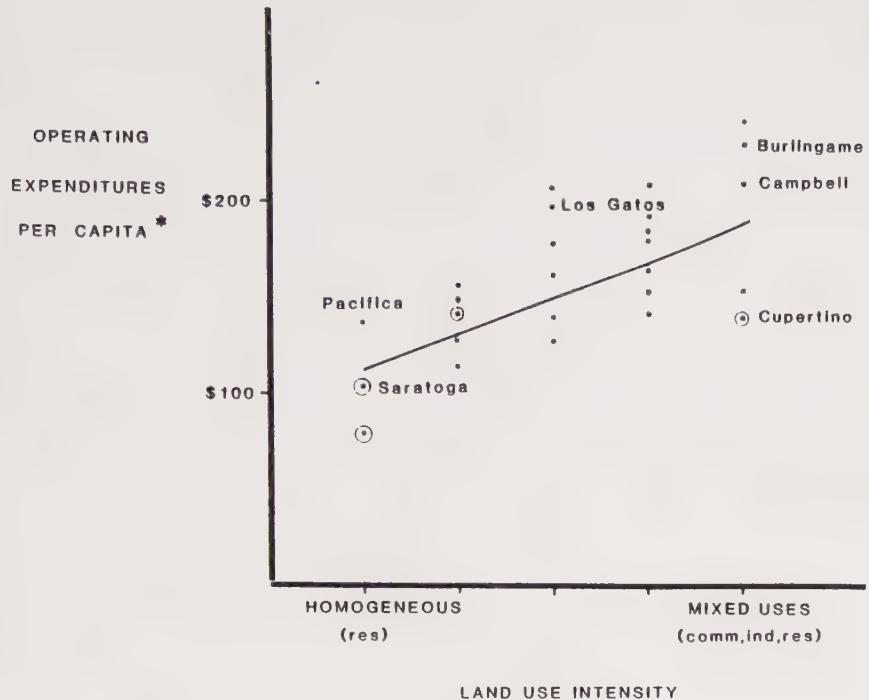
It is important to note that communities within this population range do not differ dramatically in terms of land use intensity. For instance, communities such as Campbell, Cupertino and Burlingame were ranked in the mixed use category while communities such as Pacifica, Saratoga, and Rancho Palo Verdes ranked amongst the more homogeneous community type. This relative similarity of land use types makes it even more difficult to single out one particular land use as a primary contributor to a particular cost category or general operating costs.

Results of the Survey

With all of the above qualifications in mind, the survey did note a general relationship between mixed land use intensity and operating expenditures per capital as demonstrated by the following chart.

Operating Expenditures and Land Use Intensity

(SMALL/MID-SIZE CALIFORNIA CITIES 25,000-45,000 POPULATION)



TREND LINE (average of values)

INTENSITY LEVEL (FACTORS)

* ADJUSTED TO REMOVE FIRE DEPARTMENTS AND EXPENDITURES FOR SEWERS AND GARBAGE

④ POLICE ON CONTRACT

COMMERCIAL

- Sales Tax >\$2 Million
- Regional Center >400,000 sq. ft.
- Acreage > 300 acres

INDUSTRIAL/OFFICE

- Acreage > 300 acres
- Buildings > 3 stories

RESIDENTIAL

- RI/R3 < 30/20

SOURCE: ANNUAL REPORT 1980-81 FINANCIAL TRANSACTIONS CONCERNING CITIES OF CALIFORNIA, STATE OF CALIFORNIA.

The scatter diagram demonstrates that Cupertino, relative to other communities of similar size, has a low level of operating expenditures while supporting a mixed land use form. Cupertino's operating costs per capita are compatible with the lower one-third of the communities surveyed.

The above relationship points out that Cupertino is in a good fiscal position with a relatively high sales tax base, a healthy mix of land use types, and an unexpectedly low level of operating expenditures. This position is probably due to Cupertino's high family income levels, its conservative fiscal

attitude, the pay-as-you-go capital improvements philosophy and historically high sales tax base within the community.

Policy Service Costs and Commercial Activity

The survey provided an opportunity to evaluate police costs relative to sales tax revenue to determine if a correlation exists between these two factors. Staff prepared charts illustrating total police budget and police budget per capital versus sales tax revenues (indicator of commercial activity). The scatter diagram was so diverse to suggest that little relationship exists between these factors. It seems evident that other characteristics have a stronger influence upon how much a community spends for its police budget including the following:

Police service on contract or an in-house department

Level of service desired

Income characteristics of the community

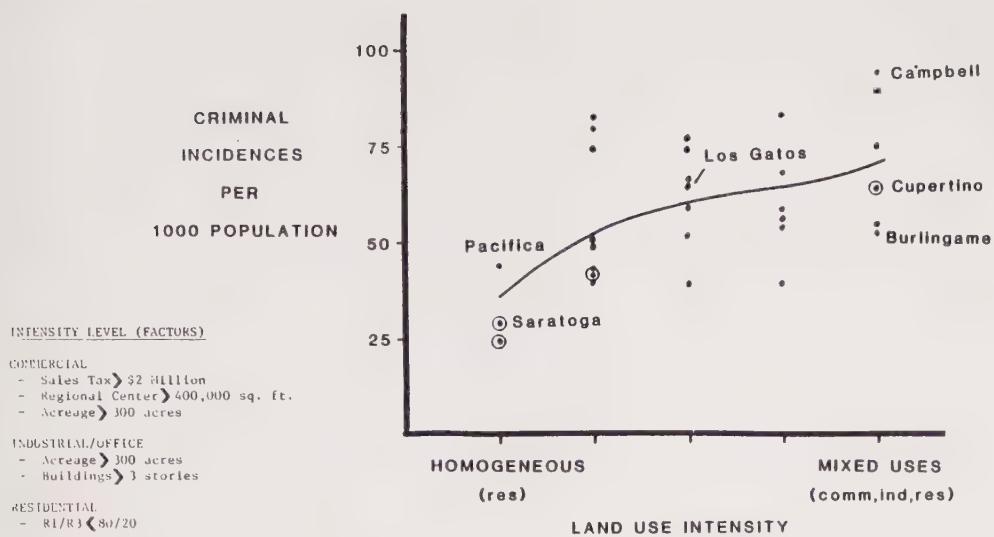
Form of commercial development (large regional mall shop space versus strip commercial areas)

Crime and Land Use

Staff had the opportunity to evaluate the incidences of criminal activity (all types) per 1,000 population against the level of land use intensity for the same communities surveyed in the earlier chart. The information was obtained from a report entitled "Crime in United States, Uniform Crime Reports 1981", prepared by the Federal Bureau of Investigation, United States Department of Justice, Washington, D. C. The following chart illustrates the results of this comparison:

Criminal Activity and Land Use

(SMALL/MID-SIZE CALIFORNIA CITIES 25,000-45,000 POPULATION)



SOURCE: "CRIME IN THE UNITED STATES, UNIFORM CRIME REPORTS 1981", prepared by the Federal Bureau of Investigation, United States Department of Justice, Washington D. C.

The above chart illustrates that of the mixed use communities, Cupertino's incidence of crime is relatively lower than other similar communities. However, Cupertino's incidences of crime per 1,000 population falls approximately midway compared to all of the other cities in the survey. As in the previous chart, the results of this chart must be taken with caution as criminal activity is probably more highly related to income levels than the absolute square footage of commercial or other types of land use. Even given these qualifications, the above relationship points out that Cupertino has a relatively advantageous position with respect to incidences of crime and its land use character.

Does Office Development Pay for Itself?

With the exception of commercial land uses, none of the comparisons were able to isolate a particular land use with respect to municipal costs. The following section attempts to isolate the revenues and costs from a typical office development.

With the exception of the Central Fire District's operating costs, it appears that there is no service threshold which is being exceeded by any of the development options presented in the General Plan Amendment. With respect to the fire service costs and major road improvement costs, it must be assumed that the new increment of development will bear all of the additional costs through some fee structure, and/or direct payment for these improvements. With this assumption, office development can be evaluated in terms of its overall contribution to general operating expenditures and its relative revenues expected to be brought in from property taxes and secondary benefits to the sales tax base from the additional employment in the area. Other than these two revenue sources, office makes no other significant contribution to the municipal budget.

Staff evaluated a 500,000 sq. ft. office/industrial development in terms of the sales and property taxes expected to be generated and compared a proportionate share of the cost attributable to this development utilizing the cost estimates identified in the Questor Report. The results of this analysis illustrate no significant difference between the revenues and costs associated with office development.

The assumptions, constraints, and calculations for the hypothetical office/industrial development are listed below:

Office and Industrial Facilities (Costs and Revenues)

Assumptions and Constraints:

- No major service thresholds
- Related fire and street improvement costs borne by new increment of development
- Cost differential in Questor Report between Intermediate and Existing General Plan can be proportioned on a square foot basis to industrial, office, commercial increment.

- Major municipal revenue sources for office and industrial is limited to the following:
 - Property tax
 - Secondary sales tax benefits
 - Four employees per 1,000 sq. ft.
 - Taxable sales per employee = \$1,000 per year.

Example:

500,000 sq. ft. office development

Costs

Proportioned costs from Questor Report = \$60 per 1,000 sq. ft. represents the non-residential cost differential between the Intermediate and Existing Plan divided by the square footage differential of office, industrial, and commercial.

500,000 sq. ft. X \$60 per 1,000 sq. ft. = \$30,000

Revenues

Sales Tax

500,000 sq. ft.	
x 4 employees per 1,000	
2,000 employees	
<u><u>\$1,000</u></u> sales per employee per year	
2,000,000	
x .0091 sales tax to City	
\$18,200	

Property Tax

500,000 sq. ft.	
x \$85 per sq. ft. (market value)	
_____ extrapolated from Questor Report	
\$42,428,600 Market Value	
x .01 Tax Rate	
\$424,285	
x .02 City portion	
\$8,500	

Grand Total Revenues \$18,200 + \$8,500 = \$26,700

Housing Affordability

The Economic Report makes it clear that Cupertino is likely not to be the place of residence for many of the workers attracted to the new job opportunities created under any of the General Plan options. Housing affordability in the Cupertino area is limited to families of high income. The remaining households will be forced to find less expensive housing in neighboring communities. The Intermediate scenario provides a greater contribution of new housing units yet is not expected to adequately address the housing needs. The Economic Report stresses that housing affordability is influenced, to a large degree, by factors which are not under the control of the City of Cupertino (such as interest rates).

Mitigation Measures

The cost attributable to any of the development options can be mitigated through built-in systems to lower municipal servicing costs (fire suppression and police surveillance system) and through cost recovery techniques such as fees and charges and capital improvement assessments for land use forms which result in extraordinary municipal service costs.

The maximum level of cost mitigation should be assumed and then the expected revenue surpluses can be viewed as relative orders of magnitude indicating the potential fiscal benefit for the land use options.

Summary

Cupertino is at an economic crossroads due to its prime location within the "Silicon Valley". Although past planning has considered some level of intensity increase in Vallco Park, it is now obvious that higher building forms and building to land area ratios are desired by the marketplace as indicated by the requests of Vallco Park and Town Center. Additionally, the Planning staff has received numerous inquiries regarding building forms which exceed traditional floor area ratios. Cupertino must now decide whether to recognize these trends or restrict building intensity to the prevailing low form which has characterized

the community in the past.

An evaluation of office/industrial development costs and revenues demonstrates that the proportionate share of costs is covered by the anticipated revenues with no substantial surplus of revenues. Therefore, office and industrial intensity must be viewed relative to what it can achieve in terms of initial capital improvements and community character and not as a significant revenue generator for the City.

The five optional land use plans provide a full range of land use, economic and fiscal considerations from which the community can balance the important issue of community character, economic responsiveness and fiscal security.

6 COMMUNITY SERVICES

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COMMUNITY SERVICES

Introduction

The purpose of the Community Services Element is to describe the relationship of four alternative growth plans to the capacity of key utilities and government services. The section evaluates the physical capacity of utility systems and the effect of the growth plans on the level of service of people-related services such as police, fire and parks. Police and fire are singled out for evaluation in this section because they are uniquely affected by the physical form of development and activities as well as an intensity of development measured in terms of building square footage. It should be emphasized that the capacity of a utility or an increase in a level of service can always be increased via increased funding. In the context of this document, the analysis is made based upon present theoretical capacities of private and public utility systems and the presently accepted level of service for police and fire. The issue of who pays and how much to increase the level of service or to increase the capacity of utility systems will be discussed in the Implementation Section.

Waste Water

Purpose and Background

Waste water collection and treatment in the City of Cupertino is provided by the Cupertino Sanitary District. The District serves Cupertino's Urban Service Area, a small portion of Los Altos near 280 Freeway and Foothill Boulevard, and a northerly section of Saratoga's Urban Service Area which is contiguous to Cupertino's Urban Service Area. Figure 6-1 defines the existing service area of the District. The District owns and maintains a sewer main system to collect and transport waste water to the San Jose/Santa Clara Water Pollution Control Plant located in North San Jose adjacent to San Francisco Bay. The District purchases water treatment capacity from the operators of said plant.

CUPERTINO SANITARY DISTRICT BOUNDARY

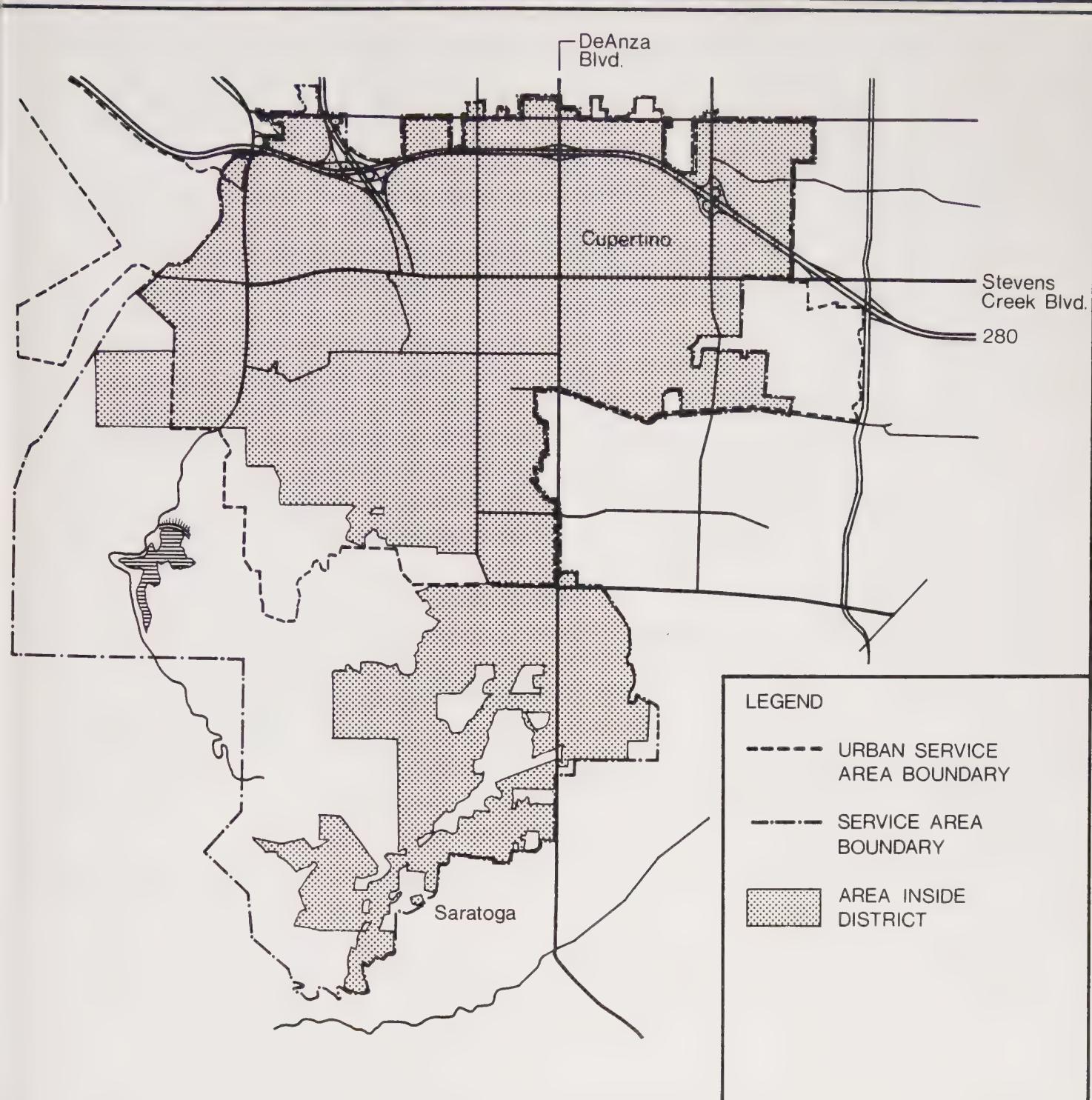


FIGURE 6-1

The scope of the environmental review of the Cupertino General Plan Amendment is limited to an evaluation of the impacts of alternative growth capacities on the capacity of the trunk service lines within the City, the main interceptor lines which link the District to the treatment plant in San Jose and the purchased capacity of the San Jose/Santa Clara Water Pollution Control Plant. The growth inducing impacts and water quality impacts associated with the capacity of the main interceptor line and the impacts associated with 8.6 million gallons per day purchased capacity have been previously assessed and are currently being monitored by the Regional Water Quality Control Board. The regional impacts associated with the quantity and quality of the discharge from San Jose/Santa Clara treatment plant, both in terms of existing flows and future growth plans, have been and will continue to be assessed environmentally and will continue to be monitored by the Regional Water Quality Control Board. If the City of Cupertino amends its General Plan to go beyond capacity of present facilities, the regional implications of excess capacity would be assessed.

Existing and Future Setting

The City of Cupertino and the Sanitary District must contend with three capacity constraints. The purchased treatment plant capacity, the capacity of the main interceptor lines, and the capacity of main trunk lines within the community.

Treatment Plant Capacity

The Sanitary District maintains a contractual agreement with the operators of the San Jose/Santa Clara water treatment facility. The Sanitary District has purchased 8.6 million gallons per day (MGD) capacity which includes .6 MGD for the territory within the San Jose Transfer Area. Table 6-2 describes the current projected million gallon per day flow being treated by the plant from the District and projects the new growth increment from the alternative plans. The flows in the new increment column include total Cupertino development

including new growth inside and outside the Core Study Area. The total projected build-out growth is reflected in the third column of the table. As indicated by Note 4 of the table, there is a distinction between purchased capacity and actual capacity of the plant.

TABLE 6-2

Waste Water Treatment Plant Capacity Analysis
Current and Future Average Daily Flows in Million Gallons Per Day (MGD)

	Current Flow April 1981	New Flow Increment from Alternate Plans ²	Build-out Flows ³	Purchased Capacity ⁴
Increased Plan		3.24	7.69	
Intermediate Plan	4.45	2.80	7.25	8.6
Existing Plan		1.67	6.12	
Decreased Plan		1.49	5.94	

1. Total current District flow from all jurisdictions.
2. New flow increment includes new Cupertino Urban Service Area growth inside and outside of Core Study Area. Outside Core Area growth is constant for each alternate Core Area Plan.
3. The build-out flows do not include future growth from north-west Saratoga. The Sanitary District projections indicate that there is adequate capacity to service future Saratoga growth based upon Saratoga's current General Plan and Cupertino's proposed Plan Amendments.
4. Refer to text for a discussion of purchased capacity versus actual capacity for the total District boundary.

In September of 1979, the San Jose/Santa Clara Treatment Plant malfunctioned which resulted in a series of studies and findings that the treatment plant's actual existing and projected capacity was below the design capacity of the plant. The San Jose/Santa Clara treatment plant operators, in cooperation with Cupertino Sanitary District, other treatment agencies, and the Water Quality Control Board, are in the process of modifying the plant to bring the capacity back up to its designed level. The Cupertino Sanitary District's proportional share of the actual capacity is difficult to pinpoint because of the constantly changing projection defining the actual capacity and projected capacities based upon various improvement scenarios. In April 1981, the "reliable capacity" was

estimated to be 130 million gallons per day which translated to reliable capacity allocation of 7.82 million gallons per day for Cupertino.

Interceptor Line

Table 6-3 identifies the current and projected average peak daily flows for the main interceptor lines linking Cupertino to the San Jose/Santa Clara treatment plant. The main interceptor line must be sized to accommodate peak hour flows and, thus, the million gallon per day values for the receptor lines differ from the purchase capacity values described in Table 6-2. As indicated by Table 6-3, the main interceptor line capacity will not be exceeded by any of the build-out flows resulting from alternative land use plans.

TABLE 6-3

Main Interceptor Line Capacity Analysis
Current and Future Peak Flows in Million Gallons Per Day (MGD)

	Current Flow April 1982	New Flow Increments from Alternate Plans ¹	Build-out Flows ²	Line Capacity ³
Increased Plan		5.8	12.8	
Intermediate Plan	7.0	5.0	12.0	15.9
Existing Plan		3.0	10.0	
Decreased Plan		2.6	9.6	

1. New flow increments includes new growth inside and outside of Core Study Area. Outside Core Area growth is constant for each alternate Core Area Plan.
2. The build-out flows do not include future growth from northwest Saratoga. The Sanitary District projections indicate that there is adequate capacity to serve future Saratoga growth based upon Saratoga's current General Plan and Cupertino's proposed amendments.
3. Capacity for entire system excluding area transferred from San Jose.

Trunk Service Area Lines

The Cupertino Sanitary District has assessed the effect of future development options on local trunk service mains. The District has determined that the Intermediate and Increased Plans could create localized problems, however, the problems can be resolved via a rerouting or parallelizing of some lines. The District will complete a more thorough analysis when the final plan is amended. Under the District's current policy, the extraordinary costs associated

with the revamping of portions of the system will be borne by private developers.

Storm Drain Analysis

In 1974, the City Council adopted a Master Storm Drain Plan to upgrade the sanitary storm system to accommodate a "ten year storm" in lieu of a former "three year storm" design criteria. The Storm Drain Plan also modified the development fee schedule to finance the upgraded system based upon development fees.

Since 1974, major lines serving the Core Area have been upgraded. The only remaining problem within the storm drain system affected by Core Area development relates to the Santa Clara Valley Water District's Calabazas Creek storm channel. The conduits beneath Miller Avenue and Tantau Avenue must be increased to accommodate the 100-year flood. The Stevens Creek Boulevard/Calabazas Creek conduit was expanded approximately three years ago. Santa Clara Valley Water District's ten year improvement plan provides for the expansion of the Tantau Avenue and Miller Avenue conduits between 1985 and 1990.

The Calabazas Creek 100-year event problem is not significantly affected by development options proposed for the Core Area. The water run-off coefficient factors used to determine the storm drain system anticipated industrial/commercial office uses based upon the 1973 General Plan. The Decreased and Existing Plan options reflect the base plan utilized in the 1974 storm drain analysis. The Intermediate and Increased Plans could result in "vertical construction" and underground parking which could tend to decrease the impervious materials placed on the ground and, therefore, reduce water run-off into the storm drain system. In conclusion, the City's sub-surface storm drain system can accommodate all four growth options for the Core Area.

Solid Waste Management

Background

The State Solid Waste Management Board has estimated that 50% of the present

landfill capacity in Santa Clara County will be lost by 1988. This unprecedented situation is compounded by a growing recognition of the limited number of environmentally appropriate potential landfill sites left to develop. Cities and residents in the northern part of the County, including Cupertino, will be the most immediately affected by the closure of existing sites. To assure adequate landfill capacity to meet future needs, the City of Cupertino has entered into a Joint Powers Agreement with five other northwest county cities aimed at providing solutions to common solid waste management concerns.

Existing and Future Setting

Cupertino and other members of the Joint Powers Agreement have recently finalized a five year contract with the Stierlin Road disposal site in Mountain View. Los Altos Garbage Company will continue to provide collection service to Cupertino residents.

Measured estimates from Los Altos Garbage indicate that 430 tons of residential, commercial and industrial collected waste are produced each week within the Cupertino City limits. Because landfills used by Cupertino are also utilized by other cities, and because the limits of future landfill capacity are not well defined, it is difficult to assess the impacts of future solid waste generation in Cupertino.

Predicted solid waste generation based on the four General Plan alternatives and including both non-collected and construction-demolition waste, ranges from 980 tons per week for the Decreased alternative to 1,180 tons per week for the Increased alternative. It is unclear, at this time, how these four land use alternatives would affect the efficient and safe disposal of solid waste produced in Cupertino. It is certain, regardless of which alternative is chosen, new disposal sites will be needed to meet projected and present demand. Without the development of new landfill sites servicers could be forced to use distant disposal sites which would result in increased operating costs and collection fees.

Mitigation Measures

The amount of solid waste presently buried at landfill sites could be substantially reduced through a comprehensive program of resource recovery. Cupertino Recyclizing already collects 60 tons of newspapers, cans, glass and oil each month and operates at a profit. The technology is available for a large scale system which sorts out reusable metals, glass and similar materials, then converts the remaining waste to usable energy. Implementation of such a system would greatly prolong the life of existing and future landfill sites.

ESTIMATED SOLID WASTE GENERATION: 1990
Cupertino Urban Service Area
Tons/Week

	Collected Solid Wastes						Total Quality Disposed
	Residential	Commercial Pro. Office	Industrial	Sub Total	Non-Collected Solid Wastes	Construction- Demolition	
Present Solid Waste Generation: 1981	300 (56%)	110 (20%)	130 (24%)	540	30	260	830
General Plan Options							
Decreased	360 (54%)	130 (20%)	170 (26%)	660	30	290	980
Existing	370 (54%)	140 (20%)	180 (26%)	690	30	290	1,010
Intermediate	390 (48%)	230 (28%)	200 (24%)	820	30	290	1,140
Increased	370 (43%)	260 (30%)	230 (27%)	860	30	290	1,180

(%) indicates the percentage of the total collected solid wastes generated.

Estimations of Solid Waste Generation are based on the following assumptions:

- a. Residential generation is based on 2.4 lbs/capita/day and 2.73 persons/household.
It was assumed that 1 household = 1 dwelling unit.
- b. Commercial/office generation is based on 1 lb./100 sq. ft./day. Hotel generation is included in the Intermediate and Increased Plans, and based on the commercial/office generation factor.
- c. Industrial generation is based on 4 employees/1,000 sq. ft. and .52 tons/employee/year. This generation ratio is based on employment in the electrical machinery and professional/scientific equipment manufacturing sectors.
- d. Construction - demolition is based on 12 lbs./capita/week generated.
- e. Non-collected solid wastes are wastes taken by private parties to disposal sites and constitute approximately 3% of the total quantity disposed of.
- f. Total quantity disposed of does not include; wastes generated by De Anza College and special wastes, such as, sewage sludges, septic tank sludges, abandoned automobiles or street sweepings.
- g. After quantities were calculated by ratio, they were uniformly reduced by 19% to reflect measured estimates from Los Altos Garbage.

Water and Power

The Core Area's water supply is provided by the California Water Service and power is provided by the Pacific Gas & Electric Company. Both utilities have evaluated the four alternative growth plans and have found that all four plans can be served. Pacific Gas & Electric Company's finding is qualified to make it clear that depending upon the precise mix of activities within the office and commercial and industrial land use categories, there may be a need for a new substation to serve the Core Area.

The utilities' findings are based upon their estimate of energy and water availability during the time frame of the Plan (1982-1990). Long range projections of energy availability and water availability is beyond the scope of this Background Report/EIR. The second phase of this report will address energy and water conservation measures.

Fire Suppression

There are three major planning considerations involved in fire planning within the community.

1. Response Time

The Central Fire District must consider a response time to get specific manpower and equipment to fires and emergency medical incidents. The District must evaluate the Traffic Circulation Plan including projected levels of traffic congestion to estimate response time judgements commensurate with an acceptable level of risk.

2. Site Design

Once the District reaches the source of the fire, the building design and site design become critical. The District requests that projects respect their operational requirements in terms of manpower levels and equipment. For example, buildings must be located in close proximity

1. Approximately 20-25 acres in Town Center is served by San Jose Water Works.

to a water source and an adequate turn-around area for equipment.

Undercrossings, overcrossings and underground parking garages must be high enough to accommodate emergency vehicles.

3. On-Site Fire Suppression Materials and Equipment

The Fire District is concerned about the degree of built-in fire suppression systems both in terms of design, materials, and equipment. In general, the Building Code and Uniform Fire Code adopted by the City, in cooperation with the District, makes a specified level of built-in fire suppression mandatory. However, in some circumstances, the City may want to go beyond fire and building codes.

The Increased and Existing Plan scenarios could result in the construction of high-rise structures within the City. From the Central Fire District's perspective, a high-rise structure is a building of five stories or greater than 60 ft. in height. The major difference in a high-rise versus a low-rise structure deals with the accessibility to the fire. In a horizontal structure, fire fighting is generally accomplished from the exterior of the building inward while a high-rise fire is generally attacked by entering the building and fighting the fire from within. Internal emergency communication systems, manpower and equipment staging areas must be provided within buildings to rescue individuals and to fight the fire. The manpower requirements for a high-rise building differs dramatically from a low-rise structure of the same size because of the nature of the fire fighting attack. Public safety and fiscal implications of the different fire fighting approaches are assessed in the following sections below.

Existing Setting

Presently, the District operates in a suburban mode with relatively few fire fighters. Central Fire District has two fire stations within the City of Cupertino staffed by an on-duty force of ten fire fighting personnel on a 24-hour per day basis. The District provides three Class A fire pumper and one ladder truck within the two stations. The District is able to provide an average response

time for the citizens of Cupertino of just over three minutes. Generally speaking, the ratio between on-duty and off-duty fire fighting personnel is one to three, thus, ten fire fighting personnel on a 24-hour day basis translates to a total employment of 30 fire fighting personnel.

Future Setting

Under all of the land use options, the Central Fire District requires increases in the number of fire fighting personnel and prefers the addition of at least one fire station (Seven Springs Ranch). However, the provision of high-rise structures (greater than five stories or 60 ft. in height) requires that the District modify its suburban mode of operation. The District anticipates that high-rise will require 15 additional fire fighters, three additional battalion chiefs, and one fire prevention inspector. The Fire District's memo of April 19, 1982 points out that the response time to high-rise fires is considerably longer than other buildings taking up to 30 minutes to get a fully equipped fire fighting team to the 10th floor of a high-rise structure. The following table labeled "Fire Fighting Needs" outlines the existing and future personnel and equipment needs projected by the Fire District.

FIREFIGHTING NEEDS

Station	EXISTING (1982)			FUTURE (BUILDOUT)						
	Firefighters on duty (total)		Equipment	NO HIGH RISE			WITH HIGH RISE			
				Firefighters on duty (total)	Equipment	Firefighters on duty (Total)	Equipment	Firefighters on duty (Total)	Equipment	
Monta Vista	3	(9)	1 pumper	3	(9)	1 pumper		3	(9)	1 pumper
Cupertino Stevens Creek Blvd. (Future Improvements)	7	(21)	2 pumpers 1 truck(ladder)	6	(18)	1 pumper 1 truck(ladder)		10	(30)	2 pumpers 1 truck(ladder)
Seven Springs (Future Station)				3 2 rescue squad	(9) (6)	1 pumper 1 rescue squad		3 2	(9) (6)	1 pumper 1 rescue squad
Total	10	(30)	3 pumpers 1 truck(ladder)	14	(42)	3 pumpers 1 truck(ladder) 1 rescue squad		18	(54)	4 pumpers 1 truck(ladder) 1 rescue squad

Police Services

The City of Cupertino contracts with the Santa Clara County Sheriff's Department for police services. Services can be classified into two general types: First, the City contracts for general patrol and law enforcement which includes responding to emergency incidents; secondly, traffic enforcement. The City contracts for 140 hours of supplemental traffic enforcement and is charged based upon the actual activity time for the general law enforcement. The costs are determined by applying a multiplying factor to the activities of field officers for support activities conducted by the Sheriff's Department.

Existing and Future Setting

In the fiscal year 1980-81, the total activity time charged the City for general patrol and law enforcement was 15,750 hours and the total traffic patrol hours charged was 7,280. Total contract costs in the period between 1976-77 and 1980-81 have increased by approximately 139%. According to the recently completed Hughes-Heiss Report, the cost increases are attributable to the expansion of the City by annexations, changes in the basic agreements between the City and Sheriff which reflects a greater overhead charge to the City, and increases in daytime population levels in the employment and shopping districts. It is difficult to assess the affect of the alternative growth plans on future police costs. A number of variables involved in estimating police costs makes cost accounting difficult, most rules of thumb indicators are based on per capita factors and/or "calls for service". Since the land use options under consideration primarily involve non-residential land uses, per capita rules of thumb are not generally applicable.

The land use options do not describe specific business and industrial activity types. Therefore, it is difficult to project "calls for service". However, the Sheriff's Department has concluded that the hotel and commercial expansion

and higher industrial and office employment levels resulting from the Intermediate and Increased Plan options may result in a need for significantly increasing manpower needs during peak activity hours.

The Sheriff's Department has formulated recommendations to offset the costs associated with more intensive development forms within the community. Essentially, the Sheriff recommends that the new development be designed to facilitate self-policing efforts on the part of people who use the environment whether they be property owners, shopkeepers or customers and office patrons. Additionally, new facilities should have built in surveillance and security systems including security personnel for certain types of business activities.

Parks

The four alternative land use options do not involve significant differences in residential growth to be of consequence in determining park need within the community. However, recent changes in attitude regarding space needs for organized sports activities and the need to balance park-related capital and operational costs with the cost of other public acquisition and maintenance programs compels the City to review the Parks Element in conjunction with the pending General Plan Amendment.

Four alternative park acquisition plans are evaluated ranging from a plan which adheres to a three acre per 1,000 standard to a park plan which provides a minimal level of service.

Planning Parameters and Key Assumptions

1. The neighborhood park service boundaries described in the 1979 General Plan are valid and, therefore, remain constant with the exception that Neighborhoods F-1 and F-2 and Neighborhoods L-1 and L-2 are consolidated (refer to Figure 6-3 through 6-6).

2. The Cupertino Union School District will adhere to the continuous consolidation plan adopted in February 1982, however, the Site Disposition Plan has yet to be formulated. For the purposes of this evaluation, all non-permanent school sites are considered sold.
3. The elementary and high school districts will continue to make turf areas on (permanent) school sites available for youth sports activities.
4. A land value of \$350,000 per acre is used to estimate the acquisition cost of park land. It is assumed that land values will not appreciate faster than other segments of the economy. Furthermore, because the District's Disposition Plan has not been formulated, costs do not reflect Naylor Bill allowances or potential lease agreements.
5. The ideal minimum size for a public park is five acres, a minimum of three acres is recommended. The adopted standard for park land per 1,000 population is three acres.
6. The demand for youth sports facilities will remain constant during the 1980's.
7. The demographic trends outlined in Section 1-1 of the General Plan will remain valid. Population levels are projected to go down in most neighborhoods due to declining household sizes.

Description of Alternative Plans

Plan A - Acquire Park Land Based upon a Three Acre Per 1,000 Population Standard

If vacant or undeveloped land is available, existing neighborhood parks will be expanded and new parks will be created in each neighborhood park service area to comply with the three acre per 1,000 neighborhood standard. The minimum size park will be three acres. A park may be expanded to accommodate softball, baseball and soccer. The existing facilities used on school sites for youth sports activities will be retained and, in instances where present schedules are crowded, new land will be purchased. Land not necessary for organized play space will be devoted to passive activities.

Plan B - Acquire Land Currently Used for Recreational Purposes

Plan B acquires all non-permanent surplus school sites currently used for organized play. The available facilities for youth sports reflect the 1982 inventory.

Plan C - Acquire Land Based Upon Existing (1979) General Plan

Acquire land based upon the 1979 General Plan. School sites not listed on Table 5-H*, "Proposed Park Land Acquisition Program", would not be purchased. An attempt would be made to shift displaced ball fields onto other sites, however, some capacity would be lost.

Plan D - Acquire Land Based Upon a Compromise Plan Which Recognizes Reduced Revenue

A three acre per 1,000 standard will not be attempted. The emphasis will be to create a park space suitable for organized sport activities. It is suggested sport complexes would be consolidated at Memorial Park, Jollyman Park and School, and Wilson Park and School. Additionally, active neighborhood park sites (three acres) would be acquired at Hoover and Eaton Schools in order to maintain facility inventory. This plan would require major renovation of Wilson Park.

Existing Setting

In 1979, Parks analysis discounted the value of school sites as meeting the park needs of the community. The growing demand for facilities to accommodate youth sports coupled with the growing risk that more school sites will be closed and sold has rekindled interest in the assessment of the role of school sites in meeting the recreational needs of the community. Figure 6-2 identifies the existing school sites and park sites within the community and identifies the existing number of ball fields on each site. Table 6-4 inventories the existing acreage, including usable ground space and turf space for each school site and identifies the existing developed and undeveloped acreages on each park site within the community. Table 6-4 additionally identifies the closure status of each school.

* Table 5-H is in 1979 General Plan.

RECREATION LAND - ALTERNATIVE

EXISTING STATUS 1982

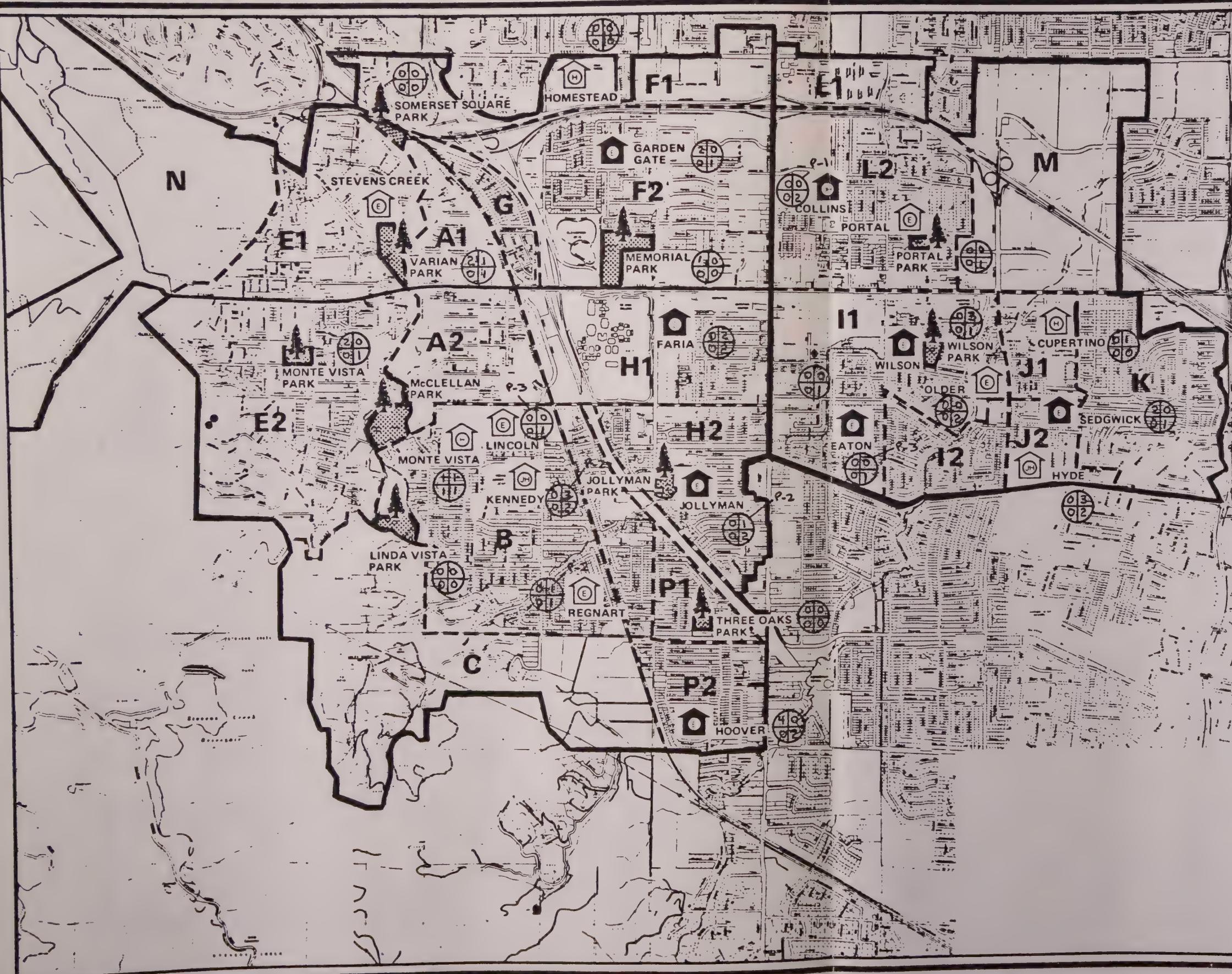


TABLE 6
1982 Park and School Site Inventory

1982 PARK AND SCHOOL INVENTORY

AREA	SCHOOL SITE	STATUS	ACREAGE			PARK	ACREAGE		ACRES FOR ORGANIZED SPORTS
			TOTAL	GROUNDS	TURFED		TOTAL	DEVELOPED	
A-1/E-1	Stevens Creek	XXXX/E	10	5.3	2.92	Varian	6.3	5	-0-
A-2/B/C	Lincoln	XXXX/E	10	6.6	2.36	(1) Linda Vista	11	8.6	.2
	Kennedy	XXXX/J	25	14.2	5.84	(2) McClellan Ranch	13	.5	-0-
	Regnart	XXXX/E	10	6.2	2.99				
	Monta Vista	XXX/S	29.2	15.3	N/A	Monta Vista	6.2	6.2	3
E-2	None								
						Sub Total	36.5	20.3	3.2
F-1/F-2	Garden Gate	XXX/E	10	4.6	2.13	Memorial	22	15	2
	Homestead	XXXX/S	27	14	N/A				
						Sub Total	22	15	2
G	None					Somerset	1	1	-0-
H-1/H-2	Faria	X/E	9.52	5.4	3.14	Jollyman	3.8	3.2	2.5
	Jollyman	C/E	10	7.9	4.65				
O	None					None			
P-1	None					Three Oaks Park			
P-2	Hoover	C/E	10	6.5	4.77	None			
I-1/I-2	Wilson	C/E	10	7.1	3.23	Wilson	4.8	4.8	-0-
	Eaton	C-1/E	10	7.3	1.43	(3) Library	4	4	3
	Fremont Older	XXXX/E	13	6.1	4.17	None			
J-1/J-2/K	Sedgwick	X/E	8.8	4.5	2.69				
	Hyde	XXXX/J	14.5	9.5	5.73				
	Cupertino	XXX/S	31	16	N/A				
L-1/L-2	Portal/Nan Allan	XXXX/E	11.6	4.8	1.71	Portal	3.8	3.8	-0-
	Collins	C/J	12	6.5	4.25				
M/N	None					None			
						Sub Total	20.54	19.94	5.5
						Total	79.04	55.24	10.7

NOTES: Operational Status Codes:

XXXX - Closure unlikely

XXX - Closure possible

X - Closed to general enrollment

Currently in inventory for special use

E - Elementary School

C - Closed. Disposition uncertain

J - Junior High School

C-1 - To be closed 1983. Disposition uncertain

S - Senior High School

(1) Linda Vista - Not suitable for programming sports.

(2) McClellan Ranch Park - Designated as a rural and nature preserve.

(3) Library - Interim use. Not in permanent park inventory

Table 6-5, labeled "Recreation Space Analysis: 1982 Status", analyzes the theoretical current demand and supply of recreation space within the community. The values in the Demand Column are computed by multiplying population (in 1,000ths) by three acres. The 1982 Supply Column includes "usable" space within elementary, junior high and high school sites in the community and public open space. The term "usable" is defined in the footnote section of the Table. The column "Existing Ratio" is derived by dividing 1982 supply by population divided by 1,000.

The last five columns of the figure of Table 6-5 describes the existing number of softball, baseball, football and soccer fields within each neighborhood. Practice and substandard fields within each neighborhood are also identified.

The neighborhood park areas are categorized into three sub-areas which correspond to youth sports boundaries as identified by participants within the softball, baseball, soccer and football leagues. The geographical boundaries are identified on Figure 6-2.

As indicated by the "Existing Ratio" column on Table 6-4, the majority of neighborhoods have an adequate supply of land to meet the recreation needs based upon three acres per 1,000 assuming that school space can be given "park" credit.

Future Setting

The four alternative park plans should be viewed as guideposts from which to evaluate different approaches to providing adequate park services within the community. The primary difference between the alternatives pertains to various levels of funding available to purchase park land. The Planning Commission and City Council and public may choose to elect a combined alternative or an entirely new approach, particularly, if there is a strong feeling that the basic parameters and assumptions which underline the plan are invalid or overly optimistic or pessimistic.

1-GPA-80 RECREATION SPACE ANALYSIS

EXISTING: 1982 STATUS

Code: PARKS1

AREA	POP.	EXISTING 1982		EXISTING RATIO	NUMBER OF PLAY FIELDS IN INVENTORY				COMMENTS
		DEMAND	SUPPLY		SOFTBALL	BASEBALL	SOCCER	FOOTBALL	
A-1/E-1	3082.00	9.25	11.60	3.76	2	1	1	0	
F-1/F-2	7132.00	21.40	40.60	5.69	3	0	2	0	
G	894.00	2.68	1.00	1.12	0	0	0	0	
N	0.00	0.00	0.00	0.00	0	0	0	0	
Sub total	11108.00	33.32	53.20	4.79	5	1	3	0	
A-2/B/C	6494.00	19.48	66.30	10.21	1	5	4	1	+3 practice softball fields &
E-2	4222.00	12.67	6.20	1.47	2	0	1	0	4 practice baseball fields
H-1/H-2	4156.00	12.47	17.10	4.11	0	3	4	0	+2 practice baseball fields
O	1647.00	4.94	0.00	0.00	0	0	0	0	
P-1	1150.00	3.45	3.40	2.96	0	0	0	0	
P-2	1923.00	5.77	6.50	3.38	4	0	2	0	
Sub-total	19592.00	58.78	99.50	5.08	7	8	11	1	
I-1/I-2	4964.00	14.89	29.30	5.90	0	3	5	0	+3 baseball practice fields
J-1/J-2/K	6080.00	18.24	30.00	4.93	2	4	3	0	
L-1/L-2	4870.00	14.61	15.10	3.10	0	0	3	0	+1 practice baseball field
M	0.00	0.00	0.00	0.00	0	0	0	0	
Sub total	15914.00	47.74	74.40	4.68	2	7	11	0	
TOTAL	46614.00	139.84	227.10	4.87	14	16	25	1	

1. Includes library field which is not part of permanent park inventory.

General Notes:

Existing Demand = Park land required to comply with three acres/1,000 (population \div 1,000 \times 3)
 1982 Supply = Figures include useable open land on elementary, junior high, and high school sites. Useable land is that portion of school sites not used for building and parking, and formal landscaping on street frontages.

Existing Ratio = "1982 supply" \div (population \div 1,000)

Figures 6-3 through 6-6 and Tables 6-6 through 6-9 describe the 1990 park setting for the community based upon four previously described assumptions.

Synopsis of Plan A

The objective of Plan A is to maintain a minimum of three acres per 1,000 standard within each neighborhood. Acquisition occurs within those neighborhoods that will fall below the three acres per 1,000 criteria assuming that school sites not currently designated permanent will close and be sold. In neighborhoods such as "0" that have no school sites or public park space, open land is purchased. Acquisition will not occur within Neighborhoods G and E-2 to maintain a three acre per 1,000 standard because there is no land available for acquisition. The plan involves the purchase of approximately 31.3 acres costing approximately 11 million dollars.

Synopsis of Plan B

Plan B tests the plan which would acquire recreation land presently used. Plan B ensures that all school space currently used for recreation purposes will be maintained. The assumption does not necessarily mean that new park land will be acquired in those areas where school sites are not available such as Neighborhood 0. The present configuration and number of fields for youth sports activities will not be altered. The cost is 19 million dollars.

Synopsis of Plan C

Plan C evaluates the costs and the choice of facilities that will be available, if the current General Plan were implemented by 1990. The future ratio of park land per population fluctuates wildly between the neighborhoods. The cost is 7 million dollars.

Synopsis of Plan D

Plan D tests the results of reorganizing present space to accommodate youth sports. Plan D is a minimum purchase plan which attempts to reconfigure

Plan A

1-GPA-80 RECREATION SPACE ANALYSIS
 PLAN A: MAINTAIN 3 ACRE/1000 STANDARD
 VC CODE: PARKS2

AREA	POP.	FUTURE DEMAND		1982 SUPPLY		1990 SUPPLY		PROPOSED PURCHASE	COST OF PURCHASE (\$1000's)	TOTAL INVENT.	FUTURE RATIO		NUMBER OF PLAY FIELDS IN INVENTORY				COMMENTS
		(acres)	(acres)	(acres)	(acres)	(acres)	(acres)				(ac/1000)		SOFTBALL	BASEBALL	SOCCER	FOOTBALL	
A-1/E-1	2617.00	7.85	11.60	11.60	0.00	0.00	11.60	4.43		2	1	1	0				
F-1/F-2	6286.00	18.86	40.60	36.00	0.00	0.00	36.00	5.73		3	0	3	0	a			
G	715.00	2.15	1.00	1.00	0.00	0.00	1.00	1.40		0	0	0	0	b			
N	1180.00	3.54	0.00	0.00	0.00	0.00	0.00	0.00		0	0	0	0				
Sub total	10798.00	32.39	53.20	48.60	0.00	0.00	48.60	4.50		5	1	4	0				
A-2/B/C	6949.00	20.85	66.30	66.30	0.00	0.00	66.30	9.54		4	9	4	1	c			
E-2	4271.00	12.81	6.20	6.20	0.00	0.00	6.20	1.45		2	0	1	0	b			
H-1/H-2	3795.00	11.39	17.10	3.80	7.60	2660.00	11.40	3.00		0	5	4	0	f			
O	1642.00	4.93	0.00	0.00	4.90	1715.00	4.90	2.98		0	0	0	0	d			
P-1	1168.00	3.50	3.40	3.40	0.00	0.00	3.40	2.91		0	0	0	0				
P-2	1733.00	5.20	6.50	0.00	5.20	1820.00	5.20	3.00		4	0	2	0	g			
Sub-total	19558.00	58.67	99.50	79.70	17.70	6195.00	97.40	4.98		10	14	11	1				
I-1/I-2	5678.00	17.03	29.30	10.90	6.10	2135.00	17.00	2.99		0	6	4	0	e			
J-1/J-2/K	5170.00	15.51	30.00	25.50	0.00	0.00	25.50	4.93		0	4	2	0	h			
L-1/L-2	5367.00	16.10	15.10	8.60	7.50	2625.00	16.10	3.00		0	1	3	0	i			
M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0	0	0	0				
Sub total	16215.00	48.65	74.40	45.00	13.60	4760.00	58.60	3.61		0	11	9	0				
TOTAL	46571.00	139.71	227.10	173.30	31.30	10955.00	204.60	4.39		15	26	24	1				

a. Garden Gate acquisition would not occur. Acreage figure includes Homestead High, but the facility inventory does not because they are not used by youth sports. Final phase of memorial would allow two soccer and two softball fields.

b. No available land to purchase.

c. Acreage figure reflects Monta Vista High and facility inventory reflects only Monta Vista facilities used by youth sports.

d. Acreage of Stelling Park could potentially allow youth sports.

e. Purchase three turfed acres at Eaton, 3.1 turfed acres at Wilson, deletion of library field.

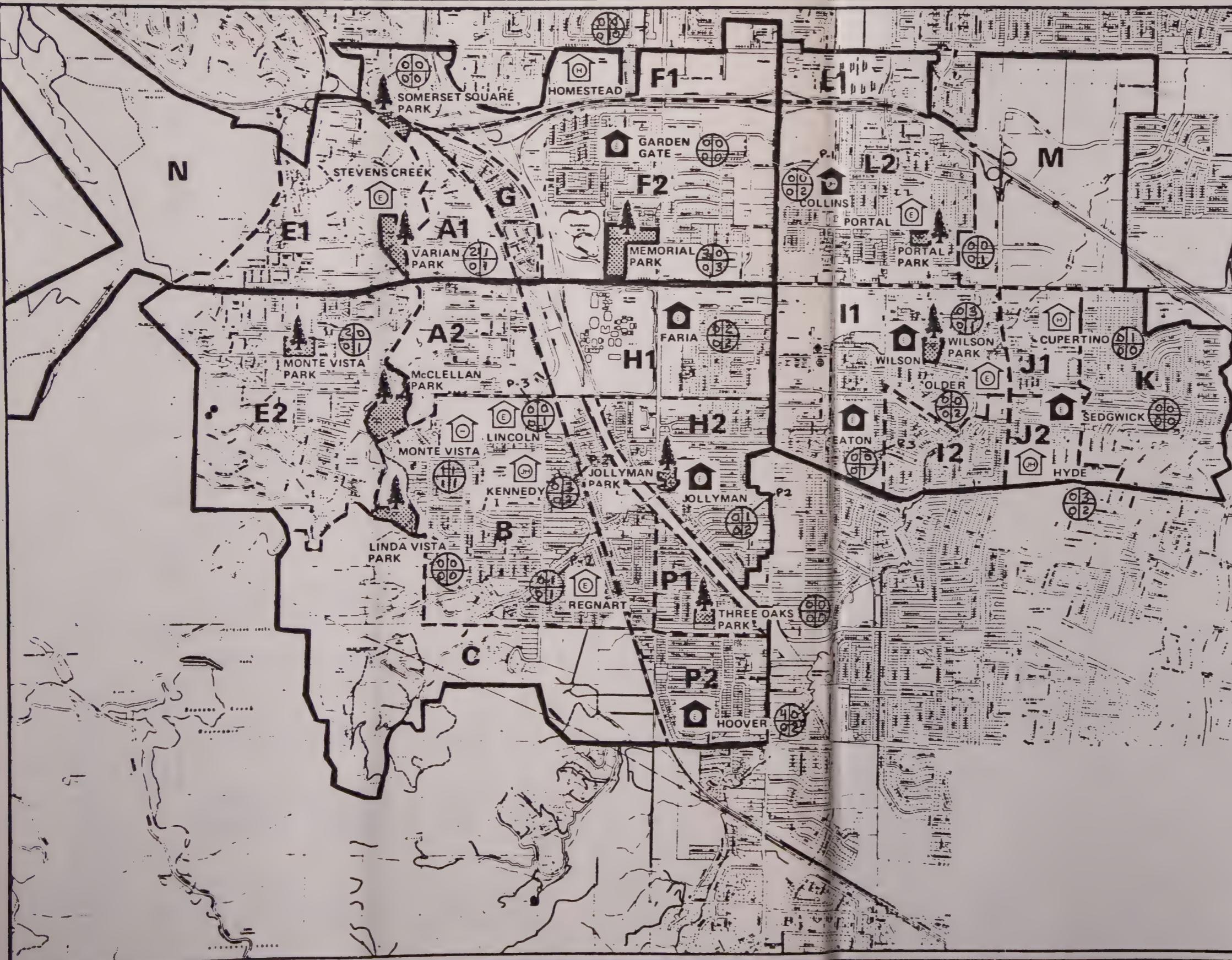
f. Purchase of Jollyman or Faria or combination of the turfed acres.

g. Purchase of Hoover turf.

h. Acquisition of Sedgewick would not occur.

i. Purchase of Collins turf plus acres elsewhere.

RECREATION LAND - ALTERNATIVE



PLAN A

LEGEND

- SOFTBALL DIAMOND
- BASEBALL DIAMOND
- SOCCER FIELD
- FOOTBALL FIELD
- PRACTICE FIELD
- NEIGHBORHOOD BOUNDARY
- YOUTH'S SPORTS ORGANIZATIONAL BOUNDARY
- PUBLIC PARK
- "PERMANENT" SCHOOL SITE
- "NON-PERMANENT" SCHOOL SITE
- E ELEMENTARY SCHOOL
- JH JUNIOR HIGH SCHOOL
- H HIGH SCHOOL

Plan B

1-GPA-80 RECREATION SPACE ANALYSIS

PLAN B: PURCHASE ALL RECREATION SPACE USED IN 1982

Code: PARKS3

AREA	POP.	FUTURE DEMAND		1982 SUPPLY		1990 SUPPLY		PROPOSED PURCHASE (acres)	COST OF PURCHASE (\$1000's)	TOTAL INVENT. (acres)	FUTURE RATIO (ac/1000)	NUMBER OF PLAY FIELDS IN INVENTORY				COMMENTS
		(acres)	(acres)	(acres)	(acres)	SOFTBALL	BASEBALL					SOCCER	FOOTBALL			
A-1/E-1	2617.00	7.85	11.60	11.60	0.00	0.00	11.60	4.43	2	1	1	0	0	0	a	
F-1/F-2	6286.00	18.86	40.60	36.00	4.60	1610.00	40.60	6.46	5	0	4	0	0	0	0	
G	715.00	2.15	1.00	1.00	0.00	0.00	1.00	1.40	0	0	0	0	0	0	0	
N	1180.00	3.54	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	
Sub total	10798.00	32.39	53.20	48.60	4.60	1610.00	53.20	4.93	7	1	5	0	0	0	0	
A-2/B/C	6949.00	20.85	66.30	66.30	0.00	0.00	66.30	9.54	4	9	4	1	0	0	0	
E-2	4271.00	12.81	6.20	6.20	0.00	0.00	6.20	1.45	2	0	1	0	0	0	0	
H-1/H-2	3795.00	11.39	17.10	3.80	13.30	4655.00	17.10	4.51	0	5	4	0	0	0	b	
O	1642.00	4.93	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	
P-1	1168.00	3.50	3.40	3.40	0.00	0.00	3.40	2.91	0	0	0	0	0	0	0	
P-2	1733.00	5.20	6.50	0.00	6.50	2275.00	6.50	3.75	4	0	2	0	0	0	c	
Sub-total	19558.00	58.67	99.50	79.70	19.80	6930.00	99.50	5.09	10	14	11	1	0	0	0	
I-1/I-2	5678.00	17.03	29.30	10.90	18.40	6440.00	29.30	5.16	0	6	4	0	d	0	0	
J-1/J-2/K	5170.00	15.51	30.00	25.50	4.50	1575.00	30.00	5.80	2	4	3	0	e	0	0	
L-1/L-2	5367.00	16.10	15.10	8.60	6.50	2275.00	15.10	2.81	0	1	3	0	f	0	0	
M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	
Sub total	16215.00	48.65	74.40	45.00	29.40	10290.00	74.40	4.59	2	11	10	0	0	0	0	
TOTAL	46571.00	139.71	227.10	173.30	53.80	18830.00	227.10	4.88	19	26	26	1	0	0	0	

a. Acquisition of Garden Gate Grounds, final phase of Memorial would allow two additional soccer and two softball fields.

b. Acquisition of Faria and Jollyman School grounds, additional facilities could be added.

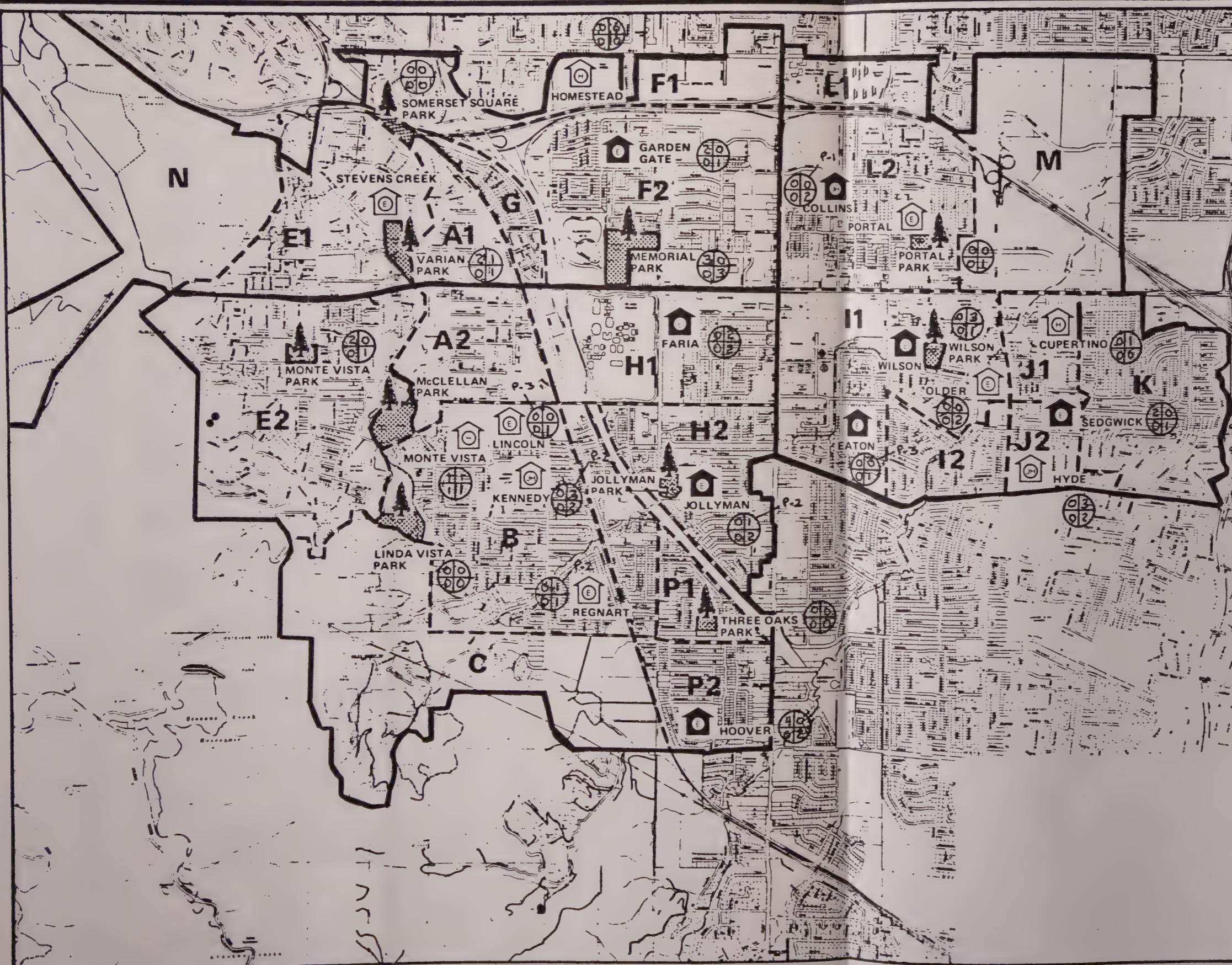
c. Acquisition of Hoover School grounds.

d. Acquisition of Wilson and Eaton School grounds + additional 4 acres to compensate for library field.

e. Acquisition of Sedgewick School grounds.

f. Acquisition of Collins School grounds.

RECREATION LAND - ALTERNATIVE



PLAN B

LEGEND

- SOFTBALL DIAMOND
- BASEBALL DIAMOND
- SOCCER FIELD
- FOOTBALL FIELD
- PRACTICE FIELD
- NEIGHBORHOOD BOUNDARY
- YOUTH'S SPORTS ORGANIZATIONAL BOUNDARY
- PUBLIC PARK
- "PERMANENT" SCHOOL SITE
- "NON-PERMANENT" SCHOOL SITE
- ELEMENTARY SCHOOL
- JUNIOR HIGH SCHOOL
- HIGH SCHOOL

Plan C

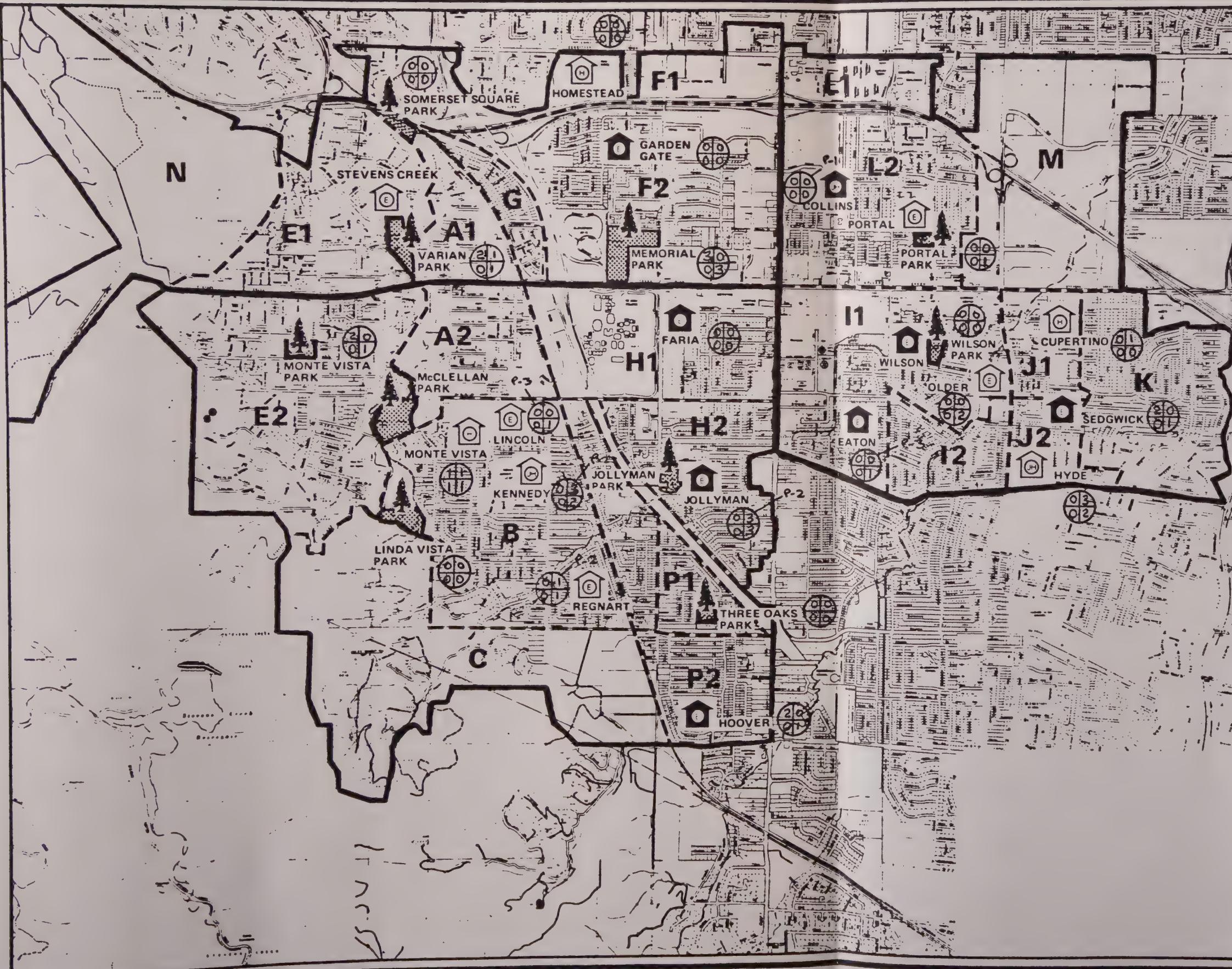
1-GPA-80 RECREATION SPACE ANALYSIS
 PLAN C: RETAIN 1979 GENERAL PLAN
 Code: PARKS4

AREA	POP.	FUTURE	1982	1990	PROPOSED	COST OF	TOTAL	FUTURE	NUMBER OF PLAY FIELDS IN INVENTORY	COMMENTS		
		DEMAND (acres)	SUPPLY (acres)	SUPPLY (acres)	PURCHASE (acres)	PURCHASE (\$1000's)	INVENT. (acres)	RATIO (ac/1000)				
A-1/E-1	2617.00	7.85	11.60	11.60	2.30	805.00	13.90	5.31	2	1	1	0 a
F-1/F-2	6286.00	18.86	40.60	36.00	0.00	0.00	36.00	5.73	3	0	3	0 b
G	715.00	2.15	1.00	1.00	0.00	0.00	1.00	1.40	0	0	0	0
N	1180.00	3.54	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Sub total	10798.00	32.39	53.20	48.60	2.30	805.00	50.90	4.71	5	1	4	0
A-2/B/C	6949.00	20.85	66.30	66.30	0.00	0.00	66.30	9.54	4	9	4	1
E-2	4271.00	12.81	6.20	6.20	0.00	0.00	6.20	1.45	2	0	1	0
H-1/H-2	3795.00	11.39	17.10	3.80	1.50	525.00	5.30	1.40	0	4	3	0 b
O	1642.00	4.93	0.00	0.00	3.50	1225.00	3.50	2.13	0	0	0	0 c
P-1	1168.00	3.50	3.40	3.40	0.00	0.00	3.40	2.91	0	0	0	0
P-2	1733.00	5.20	6.50	0.00	3.50	1225.00	3.50	2.02	2	0	1	0 d
Sub-total	19558.00	58.67	99.50	79.70	8.50	2975.00	88.20	4.51	8	13	9	1
I-1/I-2	5678.00	17.03	29.30	10.80	3.50	1225.00	14.30	2.52	0	3	4	0 e
J-1/J-2/K	5170.00	15.51	30.00	25.50	3.50	1225.00	29.00	5.61	2	4	3	0 f
L-1/L-2	5367.00	16.10	15.10	8.60	2.70	945.00	11.30	2.11	0	0	1	0 g
M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Sub total	16215.00	48.65	74.40	44.90	9.70	3395.00	54.60	3.37	2	7	8	0
TOTAL	46571.00	139.71	227.10	173.20	20.50	7175.00	193.70	4.16	15	21	21	1

6125

- a. Varian Park expansion
- b. Jollyman Park expansion (could potentially increase facilities inventory)
- c. Stelling Park acquisition could potentially allow youth sports
- d. Hoover School acquisition (3.5 acres reduces facility inventory)
- e. Acquisition of Eaton (potential loss of Wilson seriously reduces inventory)
- f. Sedgewick School acquisition
- g. Acquisition of surplus land at Portal School (potential loss of Collins School reduces inventory by two soccer and one baseball)
- h. Final phase of memo would allow additional facilities

RECREATION LAND - ALTERNATIVE



PLAN C

LEGEND

- SOFTBALL DIAMOND
- BASEBALL DIAMOND
- SOCCER FIELD
- FOOTBALL FIELD
- PRACTICE FIELD
- NEIGHBORHOOD BOUNDARY
- YOUTH'S SPORTS ORGANIZATIONAL BOUNDARY
- PUBLIC PARK
- "PERMANENT" SCHOOL SITE
- "NON-PERMANENT" SCHOOL SITE
- ELEMENTARY SCHOOL
- JUNIOR HIGH SCHOOL
- HIGH SCHOOL

Plan D

1-GPA-80 RECREATION SPACE ANALYSIS

PLAN D: MINIMIZE PURCHASE BY REORGANIZING PRESENT SPACE TO ACCOMODATE YOUTH SPORTS

Code: PARKS5

AREA	POP.	FUTURE	1982	1990	PROPOSED	COST OF	TOTAL	FUTURE	NUMBER OF PLAY FIELDS	IN INVENTORY	COMMENTS
		DEMAND (acres)	SUPPLY (acres)	SUPPLY (acres)	PURCHASE (acres)	PURCHASE (\$1000's)	INVENT. (acres)	RATIO (ac/1000)			
A-1/E-1	2617.00	7.85	11.60	11.60	0.00	0.00	11.60	4.43	2	1	1
F-1/F-2	6286.00	18.86	40.60	36.00	0.00	0.00	36.00	5.73	3	0	3
G	715.00	2.15	1.00	1.00	0.00	0.00	1.00	1.40	0	0	0
N	1180.00	3.54	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Sub total	10798.00	32.39	53.20	48.60	0.00	0.00	48.60	4.50	5	1	4
A-2/B/C	6949.00	20.85	66.30	66.30	0.00	0.00	66.30	9.54	4	9	4
E-2	4271.00	12.81	6.20	6.20	0.00	0.00	6.20	1.45	2	0	1
H-1/H-2	3795.00	11.39	17.10	3.80	7.90	2765.00	11.70	3.08	0	5	4
O	1642.00	4.93	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
P-1	1168.00	3.50	3.40	3.40	0.00	0.00	3.40	2.91	0	0	0
P-2	1733.00	5.20	6.50	0.00	3.00	1050.00	3.00	1.73	2	0	1
Sub-total	19558.00	58.67	99.50	79.70	10.90	3815.00	90.60	4.63	8	14	10
I-1/I-2	5678.00	17.03	29.30	10.90	10.10	3535.00	21.00	3.70	2	7	6
J-1/J-2/K	5170.00	15.51	30.00	25.50	0.00	0.00	25.50	4.93	0	4	3
L-1/L-2	5367.00	16.10	15.10	8.60	0.00	0.00	8.60	1.60	0	0	1
M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Sub total	16215.00	48.65	74.40	45.00	10.10	3535.00	55.10	3.40	2	11	10
TOTAL	46571.00	139.71	227.10	173.30	21.00	7350.00	194.30	4.17	15	26	24
											1

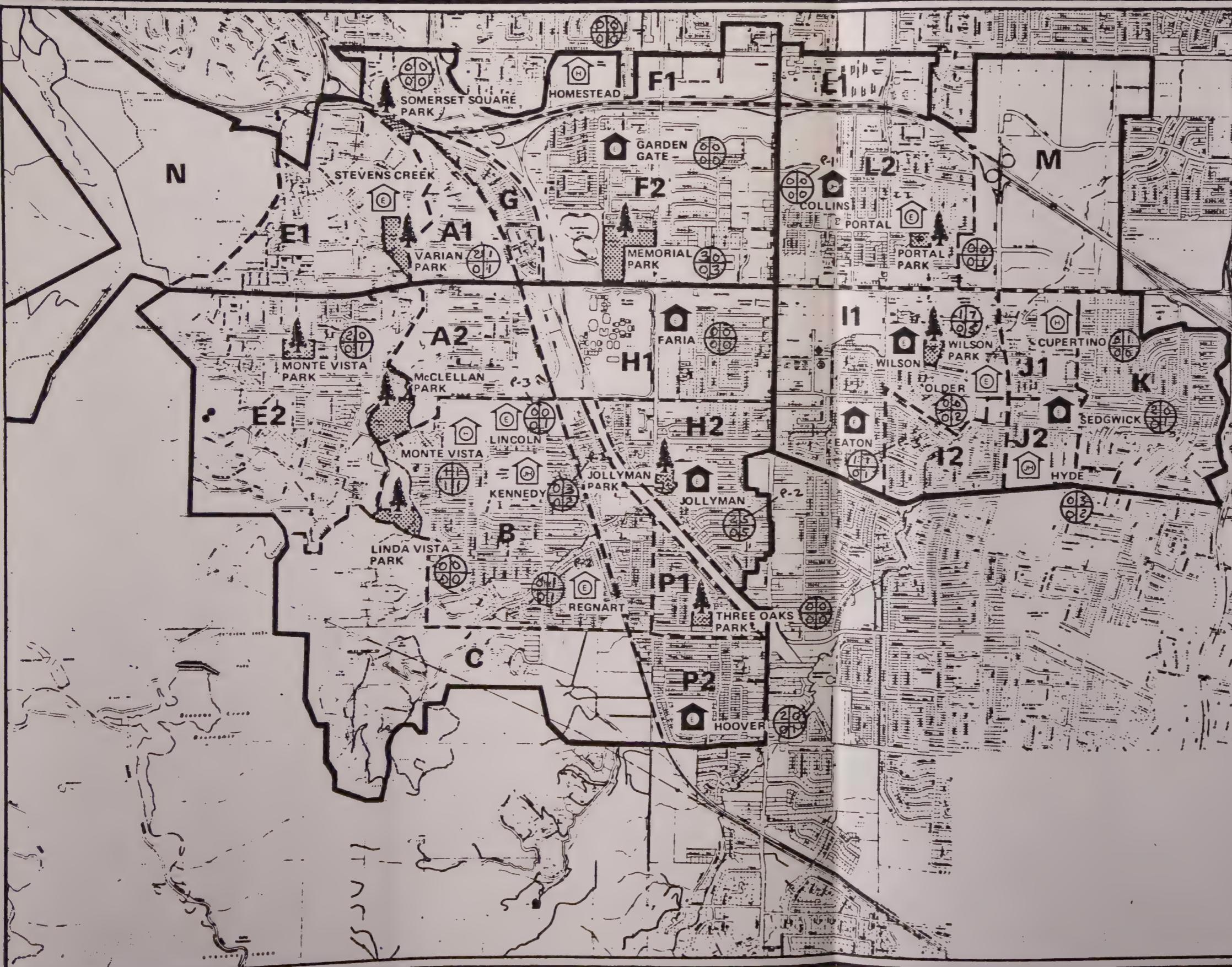
a. Final phase of Memorial to allow for organized sports, acquisition of Garden Gate would not occur.
 b. Acquisition of Jollyman school grounds (7.9 acres) plus continued acquisition of park property along Stelling Road could accommodate lost facilities at Faria and Hoover.
 c. Acquisition at Hoover, reduces facility inventory by half for that site.
 d. Acquisition of Wilson school grounds (7.1 acres) and 3 acres at Eaton School. Major renovation of Wilson Park would be necessary.

RECREATION LAND - ALTERNATIVE

PLAN D

LEGEND

- SOFTBALL DIAMOND
- BASEBALL DIAMOND
- SOCCER FIELD
- FOOTBALL FIELD
- PRACTICE FIELD
- NEIGHBORHOOD BOUNDARY
- YOUTH'S SPORTS ORGANIZATIONAL BOUNDARY
- PUBLIC PARK
- "PERMANENT" SCHOOL SITE
- "NON-PERMANENT" SCHOOL SITE
- ELEMENTARY SCHOOL
- JUNIOR HIGH SCHOOL
- HIGH SCHOOL



space and purchase limited amounts of new space. Sports facilities will take precedence over passive space and, accordingly, some passive space could be reconfigured to maximize sports activities. There is a wide variation in the future ratio of park land per 1,000 since the objective requires consolidation of space into more efficient layouts for youth sports activities. The cost of the plan is 7.3 million dollars.

Mitigation Measures Regarding Community Servicing Issues

In general, public and private utility companies can accommodate the development projected by the four growth options. The Central Fire District can accommodate the Immediate and High Intensity Plans if buildings are maintained below five stories or 60 ft. in height. Depending upon the specific activities within the commercial and industrial office land use categories, the Sheriff's Department may need additional manpower during peak activity periods should the Intermediate or Increased Plan be adopted.

The following policies are suggested to mitigate problems associated with the delivery of utilities and services. The policies are categorized into one set that is applied to all four plans and another set which would be only applied to the Intermediate and Increased Plan options.

Policies to be Applied to all Four Land Use Options

Policy 6-1

The City and the Cupertino Sanitary District should develop a closer relationship relative to the development review process to ensure that waste water generation is kept within prescribed limits. The City should forward Business License applications to the District to enable it to monitor changes in tenancy (possible changes in flow rates) within existing buildings.

Policy 6-2

The City should support a solid waste management system which would include, where economically feasible, local recycling efforts and the development of resource recovery facilities to convert solid wastes to usable energy.

Additional Policies to be Applied to the Intermediate and Increased Planning Options

Policy 6-3

The City should ensure that adequate manning levels and fire fighting equipment is in place in conjunction with approval of a building which exceeds five stories or 60 ft. The City shall define the adequacy of fire protection following consultation with the Central Fire District. The City and Central Fire District shall develop a means to finance extraordinary costs associated with high-rise fire protection. The financial program shall be guided by the principle that extraordinary costs should be borne by high-rise developers. The financial formula should consider extraordinary revenue generated by high-rise (versus the same square footage for low-rise) and the additional level of service that extra manpower provides to the entire community.

Policy 6-4

The future development should be designed and equipped to assist the City police force.

- a. The Plan should provide built-in communications equipment, such as repeater sites so that the police units can function in and out of their vehicles, as well as in and out of building.
- b. Developers should be required to establish private security forces and devices to protect facilities during construction and operation.
- c. Development plans should consider physical facilities, such as office space, for use by officers on the scene to prepare reports, interview of witnesses, victims or suspects and other administrative tasks.

- d. Future development should have built-in surveillance equipment for underground or concealed areas, such as hallways and storage areas.
- e. Future planning should provide adequate planning for emergency access by emergency vehicles.

Policy 6-5

The City's Parks and Recreation program which involves land owned by the City, the Cupertino Elementary School District and the Fremont Union High School District shall strive to attain the goal of providing three acres of recreation land per 1,000 persons.

Policy 6-6

Recreation land should be accessible to all residents. Ideally, recreation areas should be within one-half mile walking distance and reasonably free from physical barriers including heavily traveled streets.

Policy 6-7

The community recreation sites should be configured to accommodate organized and non-organized activities.

Policy 6-8

In recognition of uncertainties regarding funding for park land acquisition, development and programs, a funding priority system is hereby established as listed below. The list begins with the highest priority item:

- a. Acquisition of neighborhood park sites in areas that are deficient in park acreage, having less than 50% of population determined need.
- b. The purchase of creekside or natural open space shall be addressed on an individual basis, considering the desirability and uniqueness of the site.
- c. The City will try to maintain an adequate inventory of youth sports fields.
- d. The City of Cupertino shall acquire a site for a community center.

Policy 6-9

Existing and future City park sites and joint City/school district recreation facilities should be designed based upon the following principles.

- a. Parks shall be designed to increase use flexibility and to decrease long-term maintenance.
- b. Parks shall be bordered by public streets wherever geographically feasible.

Policy 6-10

It is desirable for the City of Cupertino to have a community center. The center will attempt to provide services to meet the needs of the community.

Policy 6-11

The City shall consider lands in current inventory for redesign.

7 IMPLEMENTATION

<u>Section</u>	<u>Page</u>
Existing Goals and Policy pertaining to Plan Implementation	7-1
Costs and Revenues Associated with each Alternative Plan	7-2
Funding Road Costs	7-10
Special Tax	7-11
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Areas of Special Benefit	7-12
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City	7-13
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Development Regulations	7-17
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IMPLEMENTATION

A General Plan has little value unless its goals and policies are implemented during an established time period. The purpose of this section is to describe future actions that would be necessary to implement each of the four land use options. In this sense, the Implementation section is both a means to evaluate the four optional plans as well as a description of the actions necessary to implement the Plan once adopted. For example, the Planning Commission may determine that Plan X is ideal from a community character and transportation perspective; however, may find it too expensive or requires excessive regulation. Therefore, Plan Y may be chosen due to its ease of implementation.

The Implementation section will address capital and long-terms ongoing costs associated with each plan, who will pay the costs, and how they will be paid. The Implementation section also outlines the regulatory steps the City will take to ensure that the community develops in a manner set forth in the Plan.

Existing Goals and Policy Pertaining to Plan Implementation

The existing General Plan contains an Implementation section which generally describes a need for government efficiency and the need to establish the City's ultimate corporate limits, particularly with respect to the annexation of County pockets. The Plan also contains a listing of specific prioritized actions which should be taken to implement the Plan.

The Cupertino Goals Committee evaluated the Plan Implementation from a philosophical perspective. The Goals Committee Report stresses the need for equity in the City's planning effort, particularly with respect to the development of a funding mechanism to pay for future capital improvements. For example, Goal Three of the Government Methods and Community Services section of the Report advocates a tax and fee structure which assigns the cost of government, to the greatest degree possible, directly to those who use government services. The Transportation

section provides greater detail regarding the matter of equity. The policy states that developers should finance major improvements in proportion to the demand they place upon a given community service. Furthermore, the policy indicates that property owners and developers who have already paid a disproportionate amount compared to their demand should be credited as new development occurs.

It is difficult to argue against the development of a completely equitable mechanism to assign fees based upon demand placed on public facilities. However, the development of a fee or tax structure to assign costs to existing citizens and businesses is not practical from a legal and political perspective. The Planning Commission and City Council may be forced to develop a slightly inequitable approach to fund necessary improvements and placing the burden on new development which, of course, eventually gets transferred to new residents, retailers and industrialists.

The Implementation section may also involve the imposition of new regulations. The Goals Committee stressed the need to streamline government to the greatest degree possible and to disengage itself from actions that primarily concern disputes between private entities. The imposition of policy regarding the control of development intensity through traffic intensity performance standards and programs such as the BMR and the potential in-lieu housing fee for non-residential developers were looked upon with disfavor from the majority of the Goals Committee members.

Cost and Revenues Associated with Each Alternative Plan

A fiscal impact analysis of the Plan options is a key input into the General Plan Amendment decision. However, fiscal impact analysis has limited accuracy when assessing development options that may occur over a 10 or 15 year time period. At best, the fiscal impact analysis is limited to a reasonable level of

accuracy for a five year period. In recognition of this qualifier, the reader should view fiscal analysis as a means to evaluate the relative differences between costs and revenues associated with each plan option. Figure 7-1 and Figure 7-2 graphically summarizes key information obtained from the Questor Report (Economic Appendix), staff generated costs and revenues associated with roads and parks, and five year revenue and cost projections developed by the City's Finance Officer. Table 7-1 provides a detailed description of road improvement alternatives.

Figure 7-1 identifies "one time" capital costs for road improvements associated with the four General Plan options and "one time" park land acquisition capital costs associated with four alternative Park Acquisition Plans. Since the four alternative Core Area Plans do not involve drastic changes in projected residential units, the park cost evaluation is independent from the land use decisions for the Core Area. The only direct relationship between the alternative Core Area Land Use Plans and the alternative Park Acquisition Plan is the development priorities in terms of capital improvement funding.

The road cost bar graphs for each plan describe the base or "design" road plan required to provide Level of Service D or better for each of the four alternative land use plans. The individual improvements that comprise each base cost are described in Figures 4-10(A) to 4-10(D) located in the Transportation section of this document.

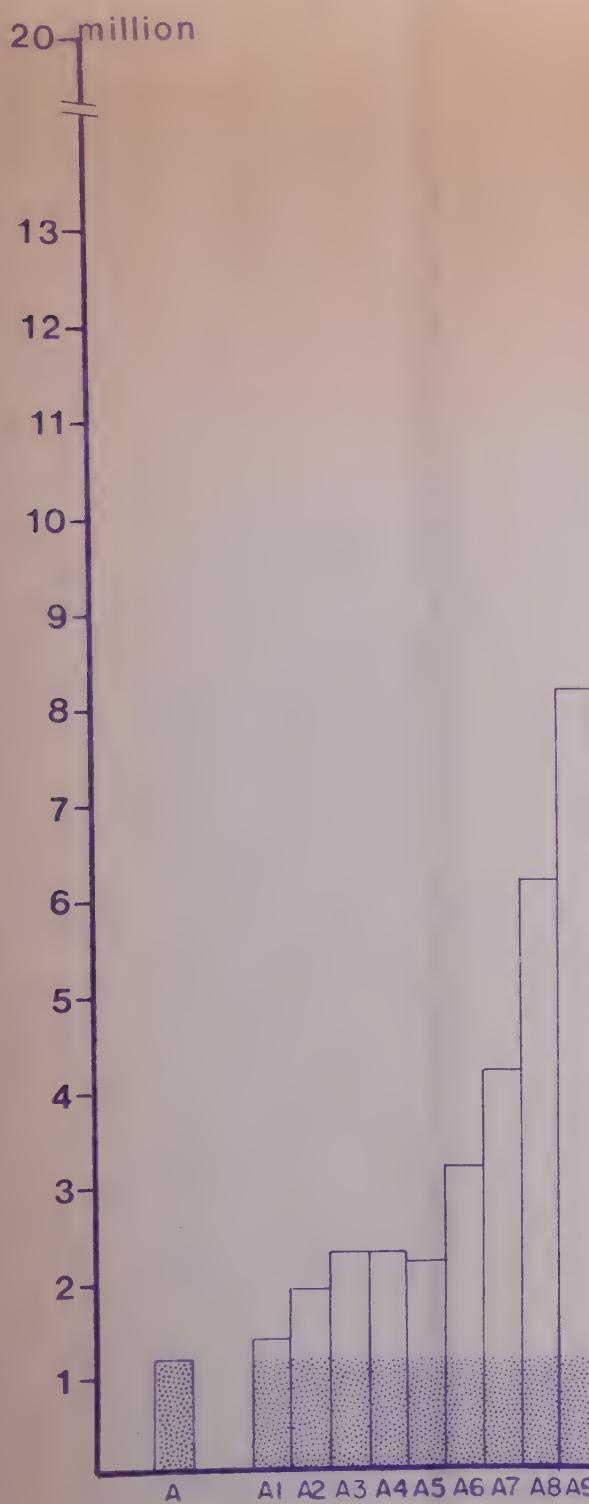
In addition to the base road cost which is labeled "A", the bar graphs describe alternative transportation improvements labeled "A-1 through A-9", that identify the cost of completing alternative street improvements to transfer traffic from residential streets in the western part of the community to the major arterial system and 85 Corridor. The alternative road plan costs are not additive. Each road alternative for each land use plan is comprised of the base plan improvement costs plus the additional cost of a specific alternative. In

TABLE 7-1
COST - MILLION DOLLARS

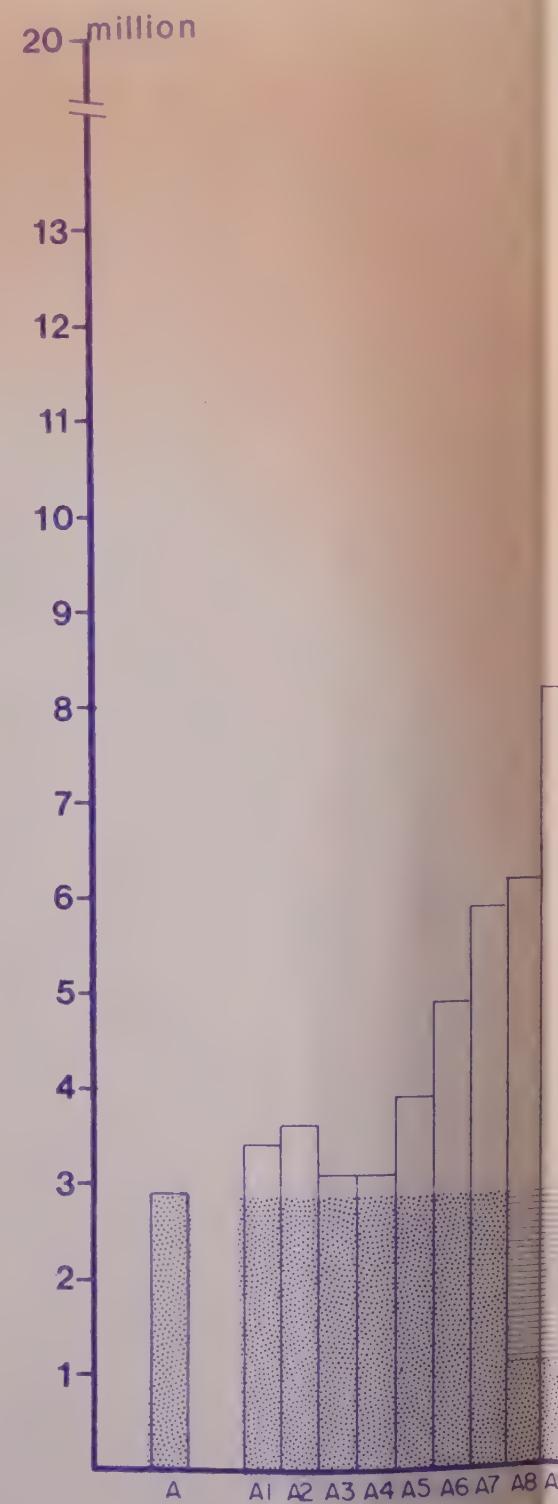
FIGURE 7-1

CODE	ALTERNATIVE	COST OF IMPROVEMENT	DECREASED PLAN	EXISTING PLAN	INTERMEDIATE PLAN	INCREASE PLAN	COMMENTS
A	*Design Plan	-	\$1.163	\$1.163	\$2.939	\$4.447	Improvement cost meets or exceeds level Service D
A-1	Maintain Current Level	Varies	\$1.435	\$1.435	\$3.389	\$5.322	Maintain current level of service if service is better than D
A-2	Diversion	\$.7	\$1.863	\$1.863	\$3.639	\$5.147	May not be implemented until Cali develops
A-3	Bollinger Extension	\$ 1.1	\$2.263	\$2.263	\$3.039	\$5.547	Reduction may occur due to adjacent development contribution
A-4	4-Lane Stelling	\$ 1.1	\$2.263	\$2.263	\$3.039	\$5.547	Reduction may occur due to adjacent development contribution
A-5	City Street 2-lanes	\$ 1	\$2.163	\$2.163	\$3.939	\$5.447	
A-6	Partial 85 2-lanes	\$ 2	\$3.163	\$3.163	\$4.939	\$6.447	Only benefits local area. Therefore, cost is additive to Design Plan
A-7	4-lanes	\$ 3	\$4.163	\$4.163	\$5.939	\$7.447	
A-8	Highway 85 2-lanes	\$ 5.0	\$6.163	\$6.163	\$6.163	\$6.163	Route 85 does not reduce design plan improvements for Decrease and Existing Plans, but does reduce improvement requirement for the Intermediate and Increased Plan
A-9	4-lanes	\$ 7.0	\$8.163	\$8.163	\$8.163	\$8.163	

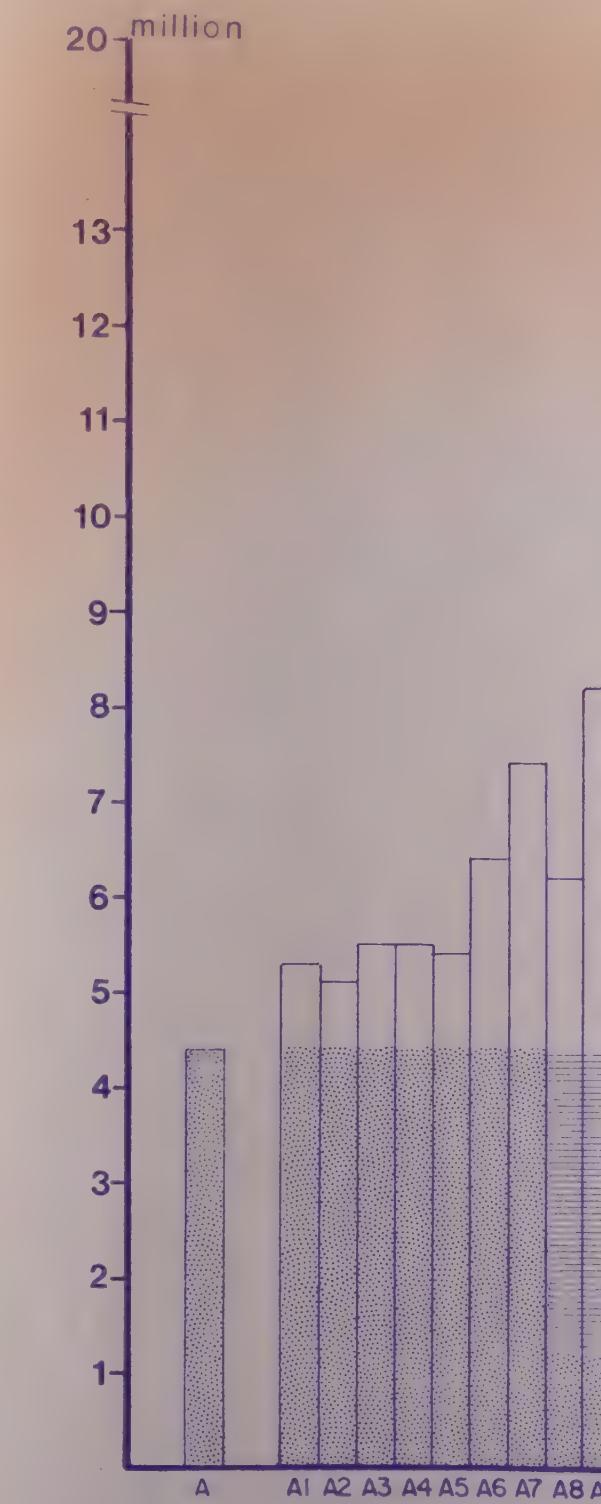
*Improvements required to meet level of Service D for each land use alternative



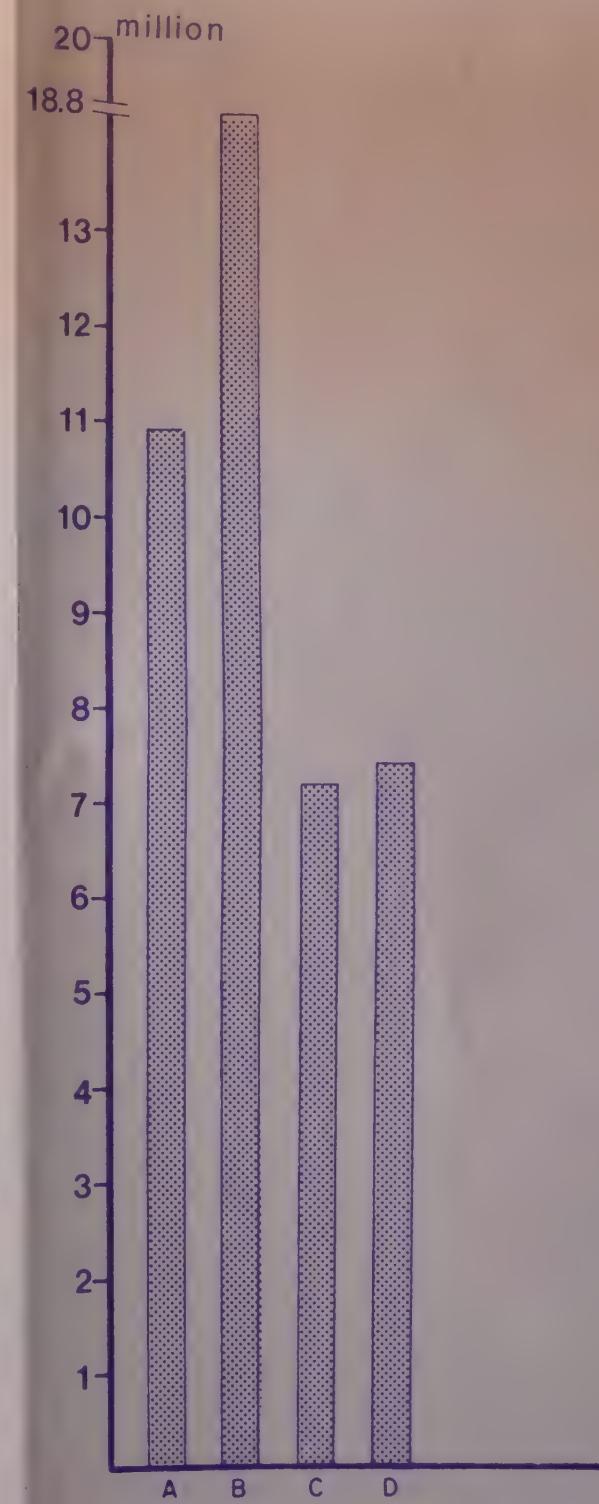
Decreased/Existing Plan



Intermediate Plan



Increase Plan



Alt. Park Acquisition Plans

ROAD COSTS FOR ALTERNATIVE LAND USE PLANS

KEY MAP

COST of ALTERNATIVE
BASE COST OFFSET BY
85 CORRIDOR IMPROVEMENTS

BASE COSTS

FIGURE 7-1

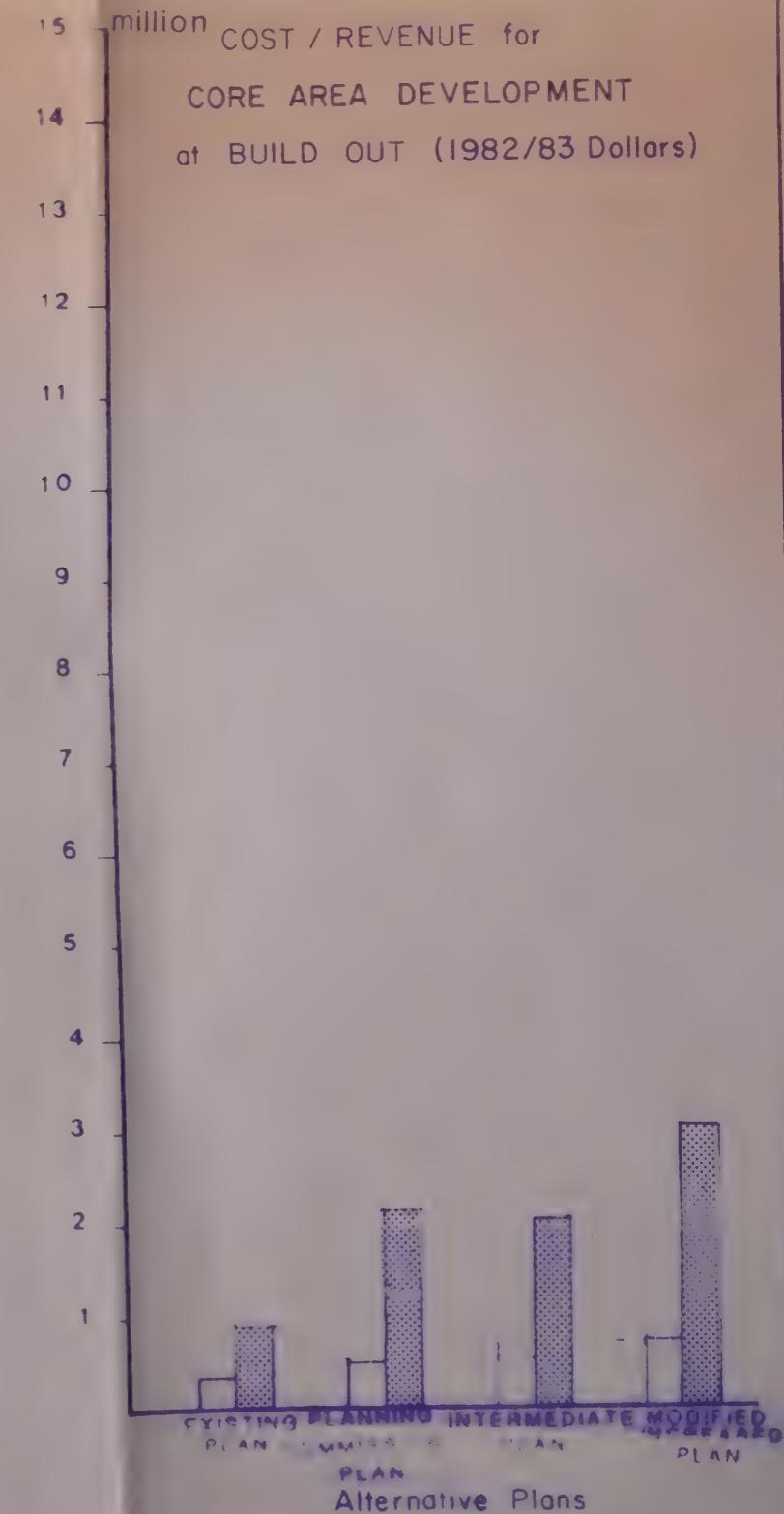
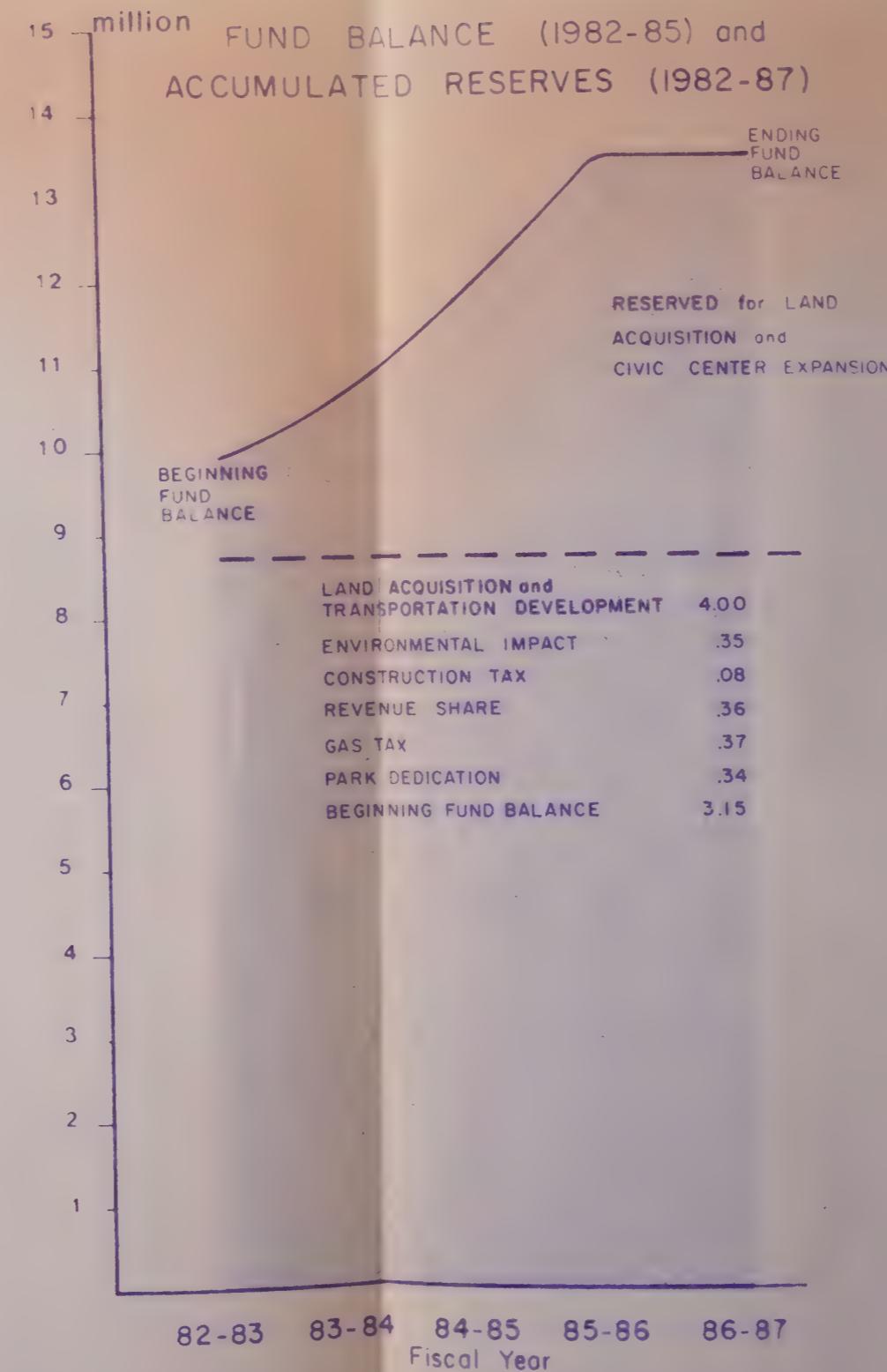
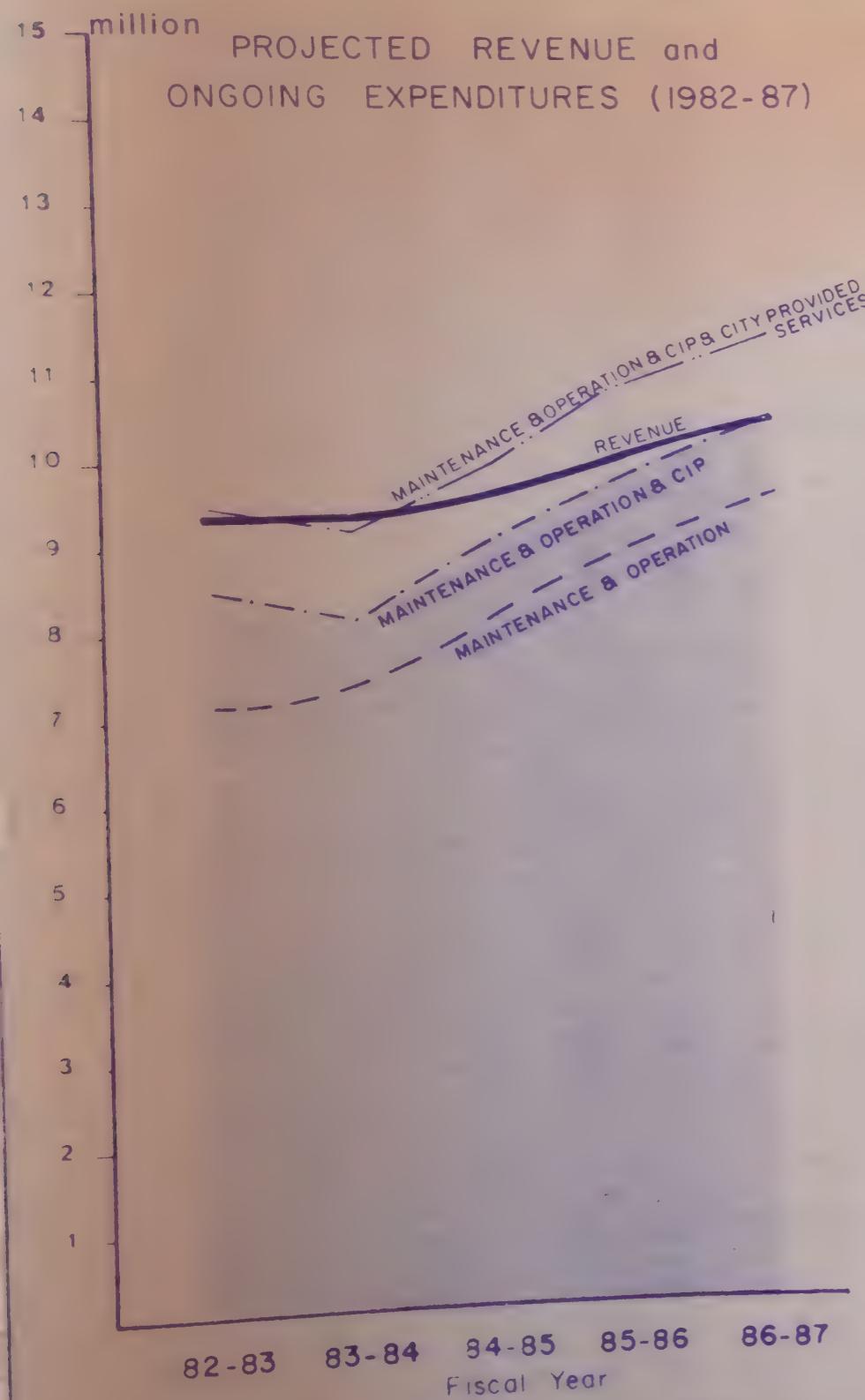


FIGURE 7-2

the case of the Intermediate and Increased Plan, the 85 Corridor improvements reduce the improvement requirements for other elements of the road system.

The Parks cost delineated on Figure 7-1 are based on a worst case scenario which assumes that the School District will elect to dispose of all non-permanent school sites and that the City will be unable to fully utilize sections of the Naylor Bill to reduce the price of school site acquisitions. The rationale and assumptions underlying the cost projects for each park plan are described in the Community Services section of this Report. The development costs associated with Parks Acquisition are not included. If the Parks and Recreation Commission, Planning Commission and City Council elect to adopt a parks development philosophy emphasizing simply designed turf areas and if existing school sites are purchased, development costs would be relatively small. The ongoing maintenance costs associated with the alternative Parks Acquisition Plan coupled with existing park park maintenance are not included in the cost revenue in the right margin of Figure 7-2. The costs, which are based upon \$10,000 per acre are as follows:

Plan A - \$313,000

Plan B - \$538,000

Plan C - \$205,000

Plan D - \$210,000

Figure 7-2 identifies projected revenues and ongoing expenditures and identifies the existing 1982-83 fund balances and accumulative reserves that are projected to occur between 1982-83 to 1986-87 fiscal years. The Projected Revenues and Ongoing Expenditures Graph identifies the City Finance Officer's Five Year Revenue and Costs projections.

Three different cost values are shown for the five year time period. M & O or maintenance and operational costs are limited to operating expenditures such as employee salaries, materials, and supplies and capital outlay items such as City vehicles, office equipment, servicing equipment, etc. The cost values "labeled M & O and CIP" include maintenance and operational costs plus capital

improvement items that are not considered in the current General Plan Amendment. Capital improvements would range from creating additional office space in the City Hall basement to minor expansion of facilities in the Corporation Yard. The third set of values are comprised of the aforementioned maintenance and operation costs plus the non General Plan capital improvements plus a public services contingency estimate. The public services contingency estimate would represent approximately one million dollars that the City would have to expend if the City were forced into absorbing the police and fire costs due to a reduction of State funding support for said services.

The revenue and cost projections are based upon an analysis conducted by the Finance Officer based on trend analysis over the past several years plus prudent estimates regarding the level of retailing growth and development growth during the next years. The five year cost revenue estimates are prepared by the Finance Officer and submitted to the Council on an annual basis. As evidenced by the graphs, the revenue trend line and the various cost trend lines are converging.

The maintenance and operation and capital improvements project costs line converges with revenues in 1986-87. If the City is forced to augment fire and police services, costs will exceed revenues in 1983-84. The graph indicates that revenues must be increased or cost must be decreased or a combination of both, prior to 1986-87 in order to ensure that the revenues and projected costs remain in balance. The figures also indicate that the City may not be in a position of adding to its various reserve accounts to acquire major General Plan related capital improvements. The reader should also be aware that the assumptions used in the cost/revenue trend analysis are always subject to change. For example, as pressure continues to mount at the State level to divert State subvention funds from local government to State programs such as education, the projected revenues will decrease. Additionally, if the economy continues to stagnate, the projected sales taxes which represents approximately 50% of

the source of revenue, will decline which will reduce the revenue line below that which is shown on Figure 7-2.

The Fund Balance Graph identifies the beginning fund balance of reserve accounts that currently exists (1982-83 budget year). The various components of that fund balance are identified. As evidenced by the graph, the reserves will continue to accumulate over the next three to four years until a level of 13 million dollars is reached. The graph does not provide for expenditures for capital expenditures such as park acquisition and major road improvement programs.

While the fund balance appears to be relatively high, it is important to note that the accumulative reserves begin to taper off as the gap between revenues and costs closes in the mid 1980's. The implication that revenue surpluses may terminate has serious ramifications in terms of planning for major facilities within the community. Although the fund balance appears to be high, the City will shift from a growth mode to a maintenance mode. Major facilities such as municipal buildings and road systems will begin to wear out and require replacement. For that purpose, it is important to maintain a fairly healthy reserve not only to maintain and replace capital improvements over time but, in some cases, it may be necessary to use reserves for ongoing maintenance and operational programs if the community elects to maintain the same level of service.

The Bar Graph at the far right of Figure 7-2 summarizes the cost revenue analysis contained within the Questor Report in terms of costs and revenues that could be expected to accrue due to the increment of growth within the Core Area. The dollar values have been inflated from the 1980-81 values contained within the Questor Report to 1982-83 dollars. As evidenced by the bar chart, the gap between costs and revenues expands significantly with the Intermediate and Increased Plans. The reader should be cautioned that the relatively heavy revenue associated with the Increased Plan must be heavily discounted because the Increased Plan assumes a level of future commercial growth which is

economically infeasible. Also, the major source of the funding for the Intermediate Plan is commercial and hotel expansion and not the relatively heavy office growth associated with the Intermediate Plan option. A more detailed description of the expected costs and revenues associated with various land use types can be found within the Market Feasibility Fiscal Impact section of this Report. The obvious conclusions to be drawn from the bar graph is that the Intermediate Plan offers advantages in terms of providing a greater revenue source to delay the expected convergence of cost and revenue trend line described in the revenue and expenditure projections graph.

Funding Road Costs

The Planning Commission and City Council must make two policy decisions relative to the adoption of a future funding program for road costs. The first policy decision pertains to the question of equity discussed earlier in this section. Should the future road system be funded by the community as a whole, the development community, or by a combined effort? As indicated earlier, the Cupertino Goals Committee recommended that a combined approach be adopted. The Committee recommended that developers should only be required to fund that portion of the road improvement plan necessitated by traffic generated by new development. The community, as a whole, should pay the cost bringing the balance of the system up to the agreed upon standard. The key concept in the philosophical discussion of equity deals with the term "agreed upon standard". The standards for acceptable levels of traffic on various streets and construction and signalization improvements standards have not been explicitly stated. Furthermore, implicit standards have varied. It would be difficult to develop a politically acceptable, "equitable" system to extract taxes or fees from existing residences and businesses to fund the upgrading of the road system to a new standard. The concept is even more difficult if one reason for the upgraded system is to accommodate more intensive development. The majority of the City's existing

street system was built by private developers and property owners. Although, the public as a whole paid for a limited number of street improvements and signalization projects, the public's primary role has been street maintenance which over the years amounts to a considerable monetary commitment. If this traditional approach is to be maintained, the Planning Commission and City Council can concentrate on the second policy question which is, how should the cost of the expanded transportation system be apread to future development?

Six alternative financing mechanisms are discussed in this report.

1. Special tax applied to all new development.
2. Special fee applied to all new development.
3. Special tax or fee applied to pre-defined areas of special benefit.
4. Road improvements contributions established through a development agreement.
5. The City funds improvements.
6. Improvements are funded via tax increment financing provision of Redevelopment Law.

Special Tax

A special tax approved by the voters will require road improvements commensurate with benefit. The benefit can be derived by trip factors such as preparation of total projected build-out trips.

Advantages

1. Applies equally to every new development.
2. The tax will be based on traffic generation factor.
3. A surcharge may be levied for higher intensity development. If Intermediate and/or Increased Plan is selected, does not require a finding of special benefit.
4. Easily collected.
5. Legally defensible.
6. Increases in the tax may be made as part of the measure.
7. Funds may be used Citywide.
8. Improvements may be implemented as needed.

Disadvantages

1. Timing - may delay adoption of the General Plan. If Plan is adopted prior to the election, it would be unknown whether the improvements may be financed.

2. Money may not be collected in the same proportion as needed to fund certain projects.
3. City or developer may have to finance and be reimbursed at a later date.
4. Estimate of cost must be precise or there could be differences between collected and needed amounts.
5. Developers might demand improvements to be installed once paid the fee even if the money is not available.

Special Fee

A special fee established by the City Council will be applied to new development commensurate with trip generation. The revenues will be added to the General Fund to pay for road and other capital improvements.

Advantages

The same as the special tax. Additionally, the fee could be adjusted up or down by majority vote of the City Council without the time consuming election process.

Disadvantages

The same as the special tax with the exception that the timing uncertainties related to a public vote are eliminated.

Areas of Special Benefit

This method would define areas of special benefit. Property owners/developers would pay fees based on the same guidelines as an assessment district. Development within the areas would finance only projects within the designated boundary.

Advantages

1. No timing problem.
2. Improvements would be installed immediately upon development.
3. Flexibility - easily modifiable.
4. Different rates may be levied for different intensity of development.
5. Trips should be used as a common denominator to determine cost sharing.
6. Developers would pay the actual amount of the improvement costs.

Disadvantages

1. Adjacent developers would contribute all of the cost. This method would eliminate development outside the boundary areas from having to pay towards transportation improvements.
2. Areas defined would not include all of the improvements needed thereby resulting in some contribution by the City.

Development Agreement

This method would require that a development agreement be executed between the developer and the City for specifically defined payments and/or improvements to be made.

Advantages

1. Has both the advantages of the special benefit and the special tax.
2. No uncertainties would prevail.
3. Improvements would be installed at whatever cost.
4. Careful drafting of the agreement may still provide monitoring techniques to keep General Plan current.
5. May include improvements other than only transportation projects.

Disadvantages

1. Only includes large developers.
2. Grants vested rights to the property owners.
3. Binds future Councils.
4. May reduce future planning efforts.
5. Requires extremely careful drafting of the agreements.
6. May still require some participation by the City for areas not covered under the development agreement.

City

This method would require that the City, through its different source of funds and availability, commit to the required improvements.

Advantage

1. It has full flexibility.

Disadvantages

1. Uncertainty.
2. May allow development to occur without funding capability.

Redevelopment Agency

This method would select certain areas and form a redevelopment agency to use increment financing to fund the cost of improvements.

Advantage

1. A new source of funding.

Disadvantages

1. Must make a finding of "blight".
2. Revenue to the City is a loss of revenue to the County.
3. Requires a setting up of redevelopment agency.

4. May not be applied to the entire City thereby still requiring other methods to implement other scattered improvements within the City.

The easiest and, perhaps, the most legally defensible approach is to adopt a special tax or fee which would spread the costs of future improvements equally among remaining vacant land holders based upon the amount of trips that could be expected by specific land use proposal on said properties. The primary disadvantage of said system is that moneys will be collected intermittently as development occurs and, therefore, the City may have to front major projects within the Transportation Plan and be reimbursed as individual developments are approved. Table 7-2 identifies the estimated cost per square foot and per dwelling unit that could be expected by future developers based upon each of the four General Plan land use options and the base traffic plan and five of the nine road improvement options identified earlier in Figure 7-1 and Table 7-1. The figure identifies the total amount of money involved and the cost per unit and the cost per square foot by land use type. As indicated by Table 7-2, the cost per residential unit ranges from approximately \$83.00 per unit to approximately \$796.00 per unit depending upon the land use plan chosen and the alternative Transportation Plan. The cost spread for square foot of office, industrial and commercial activities has a very wide range. For example, the cost range for office is from 34 cents per square foot for the Existing Plan with the base traffic plan to approximately \$2.37 per square foot for the construction of an expressway in the 85 Corridor between Stevens Creek Boulevard and De Anza Boulevard. The wide range is since the per unit costs would go down as square footages increase from the Existing to the Intermediate and Increased Plans. Table 7-2 is intended to provide a general estimate of the unit costs based upon a concept of spreading costs equally on a trip generation basis.

Development Staging

The Transportation Improvement Plans intended to support the alternative land use plans require installation of the road improvements described in Figures 4-10A

Table 7-2

GENERAL PLAN			ALTERNATIVE			FEE PER UNIT			
	UNITS	TRIPS	DESIGN PLAN A	MAINT CURR A-1	STELLING A-4	SEGMENT A-5	HI 85-2 A-8	HI 85-4 A-9	
DECREASED			COST/PLAN	1163000	1435000	2263000	2163000	6163000	8163000
Res-Low	2252	1058		117	145	228	218	622	824
Res-High	1070	428		100	123	194	186	530	701
Office	321705	611		0.47	0.59	0.92	0.88	2.52	3.33
Industry	1251370	2240		0.45	0.55	0.87	0.83	2.37	3.14
Commercial	146922	317		0.54	0.67	1.05	1.00	2.86	3.79
TOTAL		4655	COST/TRIP	250	308	486	465	1324	1754
EXISTING			COST/PLAN	1163000	1435000	2263000	2163000	6163000	8163000
Res-Low	1852	870		85	105	166	159	453	600
Res-High	1670	668		73	90	142	135	386	511
Office	486205	924		0.35	0.43	0.67	0.64	1.83	2.43
Industry	1586570	2840		0.33	0.40	0.63	0.61	1.73	2.29
Commercial	505422	1092		0.39	0.48	0.76	0.73	2.08	2.76
TOTAL		6394	COST/TRIP	182	224	354	338	964	1277
INTERMEDIATE			COST/PLAN	2939000	3389000	3039000	3939000	6163000	8163000
Res-Low	1852	870		136	157	141	183	286	379
Res-High	2730	1092		116	134	120	156	243	322
Office	2094237	3979		0.55	0.64	0.57	0.74	1.16	1.53
Industry	1676950	3002		0.52	0.60	0.54	0.70	1.09	1.44
Commercial	548936	1186		0.63	0.72	0.65	0.84	1.31	1.74
TOTAL		10129	COST/TRIP	290	335	300	389	608	806
INCREASED			COST/PLAN	4447000	5322000	5547000	5447000	6163000	8163000
Res-Low	1852	870		128	153	159	156	177	234
Res-High	1790	716		109	130	135	133	151	199
Office	2434605	4626		0.52	0.62	0.64	0.63	0.72	0.95
Industry	3040570	5443		0.49	0.58	0.61	0.60	0.67	0.89
Commercial	2185622	4721		0.59	0.70	0.73	0.72	0.81	1.08
TOTAL		16376	COST/TRIP	272	325	339	333	376	498

through 4-10B of this document (Pages 4-20 through 4-23). Some of the major improvements are located on State controlled highways which require State approval. The minor changes to intersections and streets on State controlled Stevens Creek Boulevard and De Anza Boulevard south of Stevens Creek are relatively minor and can be accomplished in a relatively short period of time. However, extensive modifications to State facilities such as the modification of Freeway 280 and De Anza Boulevard signals and overcrossing and improvements within the 85 Corridor require extensive review and analysis by the State. Indeed, the concept of installing improvements on the 85 Corridor require extensive State review not only because of the funds involved, but because of the political sensitivity of the improvements.

In addition to the need for coordination with the State, the timing and development of improvements at the intersection of De Anza Boulevard and Stevens Creek Boulevard are controlled, to a large degree, by the timing of land development on the Cali corner. An extensive modification at that intersection requires additional dedication which, in turn, requires the demolition of buildings and the relocation of businesses. It would be far less expensive for the intersection to be modified via private renewal as opposed to public condemnation. In recognition of that fact, the timing of development of the "Cali Corner" is an important consideration in terms of implementing the road improvement plans for the various land use plans.

Since land development and transportation improvements are intertwined, the City must develop a development staging plan which ensures that road improvements keep pace with development. Figure 7-3 identifies a general development staging concept for the General Plan Amendment. The figure illustrates key improvements that must be installed prior to allowing development intensity to occur assuming

FIGURE 7-3
DEVELOPMENT STAGING

LAND USE PLANS	STELLING ROAD	REQUIRED KEY ROAD IMPROVEMENTS DE ANZA BLVD.	WOLFE/MILLER ROADS
Decreased and Existing	Install new southbound lane on De Anza Blvd. from Stevens Creek Blvd. to Bollinger Road or Construct two lane roadway in 85 Corridor from Stelling Road to De Anza Blvd.	Install double left turn only lanes westbound to southbound and a right turn only southbound to westbound at De Anza/Stevens Creek intersection	Relatively minor improvements to Wolfe/Stevens Creek intersection
Intermediate and Increased	Construct two lane roadway in 85 Corridor from Stelling Road to De Anza Blvd.	Install new southbound lane on De Anza Blvd. from Stevens Creek Blvd. to Bollinger Road and Construct two lane roadway in 85 Corridor from Stelling Blvd. to De Anza Blvd. and Widen Freeway 280 and De Anza Blvd. overcrossing and modify signals	Wolfe/Miller intersection: Install double left turns westbound to southbound and construct eastbound to southbound lanes

that the City desires to maintain the section of Stelling Road located south of the 85 Corridor in a minor collector street status. The Staging Plan would not allow development intensities to proceed above existing General Plan intensities until the key improvements listed on Figure 7-2 in support of the Intermediate or Increased Plans are assured.

Development Regulations

One of the primary goals developed by the Goals Committee was to streamline government. The goal was prompted by a growing realization that excessive regulation is expensive and may unnecessarily eliminate personal freedom. For example, the Planning Commission and City Council made a determination in 1976 that hillside regulations should be limited to land use intensity and pre-established design perimeters related to grading and building siting. The Council decided that the typical practice of hillside communities to evaluate hillside building applications on a case-by-case basis results in capricious decision involving not only specific house designs but even paint color. In addition to streamlining the hillside review process, the Planning Commission

and City Council have streamlined the Architectural and Site Review procedure for non-residential development within the community.

In spite of these efforts of streamlining, there is still room for improvement. For example, the trip end performance standard developed in 1973 was a useful tool to regulate development intensity commensurate with traffic generation factors. However, actual experience in the last eight to nine years has demonstrated that the trip end performance standard works only on a broad general basis and that the application of the trip end performance standard on an individual tenant within a shopping center may be impractical, particularly since the City cannot predict the success of a merchant in terms of peak hour business activity. This problem has prompted the City to consider the use of floor area intensity ratios to regulate the general intensity of development in lieu of the performance standard. The Floor Area Ratio is a more conventional zoning pattern and does not require tenant-by-tenant control nor does it require recordation of trips.

The Below Market Rate Housing Program presently requires the minimum of staff work, however, the Planning Commission is of the opinion that additional control over the selection of participants is required. Accordingly, a city will become much more involved in the administration of the BMR Program. If a BMR selection subcommittee made up of staff, City Council and Planning Commission or some other composition is established, the Planning Commission and City Council will have to weigh the benefits of retaining the BMR Program to meet the State Housing Element requirements against the additional administrative costs.

The extensive use of Planned Development zones permits effective control over the installation of curb cuts on major boulevards and provides a mechanism to require reciprocal access and parking agreements. The reciprocal requirements are key components in the regulatory tool kit to make roadways more efficient and provide

a more pleasing appearance in the downtown area. However, the administrative work load involved in the review of projects has skyrocketed as a result of these special conditions. The City should standardize requirements even to the extent of placing typical Planned Development requirements in ordinance form.

Mitigation Measures

The following mitigation measures and/or policies are recommended for consideration.

1. The City should carefully evaluate the future fiscal balance of the community when selecting a land use plan for the Core Area Amendment. Commercial and hotel expansion will result in minimal increases in peak hour traffic and other negative physical impacts and, conversely, will result in a positive cash flow for the community to fund necessary capital improvements and meet future operating requirements.
2. The major roadway improvements should be funded by the private sector through new fees and/or taxes related to development. The cost should be spread equally among all new development based on traffic generation.
3. The City should adopt a development staging plan which generally complies with the plan outlined on Figure 7-3 of this report.
4. The City should standardize regulations applied to Planned Development applications in order to streamline costs.

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